

# The assembly of museum media:

**Tracing the adoption of novel forms and formats of  
communication technology into museum media production**

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# Abstract

Given that museums have continually engaged in media production throughout their history, this thesis investigates how museums approach innovations in communication technology and traces how emerging forms and formats are incorporated into museums' own media production processes.

The fieldwork investigation is focused on a set of projects at Royal Pavilion & Museums, Brighton & Hove; the British Museum; Southend Museums; Portsmouth Historic Dockyard and the Cooper Hewitt, Smithsonian Museum of Design. In each of these projects, the museums involved experimented with media forms and formats that they had not previously deployed. This research uses these case studies to explore the mesh of staff, assets, technologies, suppliers and platforms that have been embodied into the projects' media outputs and the means by which these networks responded to opportunities and uncertainties presented by the emerging (and converging) technologies used.

The intellectual framework of the analysis in this thesis is shaped by Actor-Network Theory (and successor theories) developed by Bruno Latour, Michel Callon, John Law and others. The study explores the utility of Actor-Network Theory to map the socio-technical methods of museum media production and proposes a graphical representation of network assembly and project programme that hybridizes two analytical methods of Latour and Callon.

What emerges from the investigation is that museums are motivated to engage with new media technology as a means to solve problems intrinsic to their nature as

physical institutions and to take opportunities to reach wider audiences. However, incorporating new technologies into their practice means that the size and instability of their production networks are increased, greater uncertainty must be overcome and that the negotiations between network actors are intensified. Additionally, there are likely to be more unrecognised or unacknowledged actors in the production network, and this is likely to affect project outcomes.

Ultimately, this thesis positions the museum as a significant, yet idiosyncratic, type of media producing entity, and offers a method to study museum media output in a rapidly changing technological landscape.



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## Chapter 1:

# Introduction

**A** 2009 London School of Economics event entitled “The Museum of the 21st Century”, part of the 60th anniversary celebrations of art publisher Thames & Hudson, featured the then directors of two of the United Kingdom’s largest museum institutions – Nicholas Serota, director of the Tate Galleries and Neil MacGregor, director of the British Museum. Addressing professionals gathered together to discuss future developments in museum practice, Serota stated:

The big challenge for institutions like ours is whether we are going to remain authors, or to what extent we become publishers. The relationship between our authority and ability to do that, and those of more conventional publishers, or indeed, broadcasters, is something we need to explore.

(LSE, 2009)

To which British Museum director Neil MacGregor responded:

The future has to be – museum as publisher, broadcaster in a new way, without question. (LSE, 2009)

The tone of these discussions saw museums as places that would engage with media production in the future, something belonging to the 21st century and beyond.

However, in many ways, museums have been prolific media producers ever since they began. Museums have been undertaking publishing from almost as soon as they opened their doors, and experimenting with new technologies soon after they became available. A survey of a museum today may unearth all sorts of media productions: the museum website and social media, digital signage, leaflets and brochures, a wide variety of in-gallery films and interactives, audio guides, DVDs, magazines and “coffee table” books. Some institutions have a media production for every aspect of the visitor journey, from the initial planning of a trip, throughout the visit itself and continuing on once the visitor has returned home. Not content with visitors, museums are using media to connect with academics, schools and other communities of interest.

Despite this high degree of media deployment in the museum sector, it is not uncommon to hear a lament on how far “behind” institutions are with their use of media technologies. This refrain among museum professionals (Steele, 2013; Ansty, 2016) is reinforced by sector reports that have focused on a “gap” in provision (Council of Canadian Academies, 2015; Nesta, 2013). Other discourses exhort museum professionals to grasp the “new” and the “future” (London School of Economics, 2009; American Alliance of Museums, 2013–2016).

If museums do not think they are “keeping up” with the pace of change in media technologies, how do we reconcile this with the observation that they are places that can be saturated with media production – media production that they largely orchestrated themselves? To try to resolve this gap in perception, this thesis surveys the history of adoption of new media technologies by museums, and investigates

how museums go about incorporating innovation in media forms and formats into their own, continuing, production practices. What emerges is evidence that museums are keen to embrace media technology innovations, often soon after such innovations become available. Media offers a means to solve space limitations intrinsic to museums, and it offers an opportunity to reach wider and more distant audiences. However, undertaking projects with a new media form, format or technology is not a routine task for most museum professionals – to do so forces them to deal with increased uncertainty and instability in their projects. Production effort, as this thesis will show, becomes intensified, with more people, things and factors brought into the project, and interaction between these participants is increased. The results are media outputs that further the museum mission, sometimes significantly, but that diverge from their original vision under the influence of all the contributing people, items, techniques, procedures and protocols that were involved in production.

## **Research aims**

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This research seeks to understand how, and why, museums incorporate new forms and formats of media production into their practice. Using theories drawn from museum studies, media studies, business studies and sociology, the thesis traces the museum's activity as a media producer in its own right, and examines how museum staff and outside contributors come together to work with innovations in media technology, form or format.

The research takes a broad historical overview of museum media production, from the earliest days of museums themselves through to the mushrooming of digital

and analogue media forms and formats available in the second decade of the 21st Century. Discovering there a rich seam of examples of both early adoption of media technology innovations and direct innovation of new media formats within the museum, the study moves on to an in-depth analysis of four contemporary case studies, tracing the involvement of staff, suppliers, materials, technologies, protocols, means of dissemination and other elements that are incorporated into each project. The case studies were chosen to represent projects where a novel (to the museum) medium (or media) is adopted as a key part of a public-facing project.

With a focus on the “assembly” of a project in a museum setting, and with the aim to reveal hidden, or unobvious, factors that influence the shape and outcomes of museum media projects, a theoretical framework was chosen that offers techniques to analyse and understand technical production in a social setting – Actor-Network Theory. A secondary aim of the thesis was to assess the utility of Actor-Network Theory for this purpose.

The outcome of the research demonstrates that museum practitioners are often keen to incorporate innovations in media technologies into their practice, and there this thesis presents evidence that they have continued to do so throughout the history of museums. They adopt new techniques of media production into their work as a means to deliver the museum mission to more people, in more depth and via different routes – but to do so they must deal with greater uncertainty and instability in their practice, with the distance between original creative conception for the project and the eventual outcome likely to be far greater than with more established forms.

## Research context

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Typically, other studies of museums and new technology to date have tended to focus upon outputs and the ways media impacts on education (Hawkey, 2004; Jackson *et al*, 1997), participation (Drotner and Schröder, 2013; Simon, 2010), marketing (Rentschler and Hede, 2009) and inclusivity (Russon and Watkins, 2007). However, as a further development of these studies, this research's contribution to the subject lies in its focus on inputs, and the interaction of innovation in media technology with the museum and how it performs as a media producer. This research makes use of a multi-disciplinary approach. It incorporates models from business studies, including product life cycle (Levitt, 1965) and the “hype cycle” (Gartner, 1995) with theories from media studies (in particular McLuhan's notions of “emergence” and “convergence” and Manovich's conceptualisation of media production). It also examines where media studies intersects with museum studies (Griffiths' historicization of museum media, and Kaplan's idea of the museum as medium). Its intellectual framework is shaped by the theories of Bruno Latour, Michel Callon, John Law (*et al*) in the form of Actor-Network Theory (ANT), utilising the theory's tools of analysis to understand the socio-technical activities of museum media production projects.

If museums and museum practitioners are self-describing, or being told, that they are “behind” developments in media technology, that they are not “keeping up” with other cultural sector spheres, then it is important that there is greater research into media practice in museums, and an understanding developed of what happens during the production process, right from the earliest idea, through to deployment and usage. The outcomes of this research can then help to inform future practice. A

better informed museum workforce will have greater self-confidence, with reduced feelings of being “behind”. A better understanding of the ways that museums adopt new media forms and formats will also help to reveal the reasons behind the perceived “gap” between museums and other cultural sector entities, or if the gap itself is actually a difference in context.

## Methodology

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### **Theoretical framework**

In the early stages of this research, the concept of “convergence” was explored in great depth as a lens to explore the adoption of media technologies by museums. As a driver of innovation and change in technology and practice, convergence was attractive as a means through which to approach the topic. For example, the convergence of personal computer and telephone resulted in the mobile smartphone, and museums’ responses to this new device made an attractive avenue of exploration. Convergence of practices, for example from computerised cataloguing to online presentation also seemed like a rich seam to explore. It was anticipated that if instances of convergence as a stimulus were studied, changes in museum practice could be explored. However, as the research unfolded, it became clear that convergence did not encompass enough of the whole “story” – further research demonstrated that convergence was weakening as a key concept, other stimuli were also as important. It became clearer that a mesh of connections and events were important and so, ultimately, convergence was not used as a central concept.



Museum media production involves several elements; there are the museum professionals, the medium itself, the suppliers that are (more often than not) called in to help with production, there are funding bodies and there are audiences. Collections, and the objects within them very often part of museum media – additionally there is the “content” generated from those collection objects (curatorial interpretation [text], photographs, film, metadata and so on). For this study, a methodological tool that could look across all these elements (and more), cutting across disciplinary and organizational categories was considered necessary. If the tool could encompass social interactions and technical developments simultaneously, then a coherent narrative could potentially be constructed around the varied aspects of media production within museums.

Eventually, following further study into methodologies and theoretical frameworks, Actor-Network Theory was selected as the methodological tool that best fulfilled the criteria above.

Actor-Network Theory (ANT) emerged in the early 1980s from the work of Bruno Latour, Michel Callon and John Law. ANT challenged perceptions of science and scientific “fact”.

With others in the sociology of science, they argued that knowledge is a social product rather than something generated through the operation of a privileged scientific method. And, in particular, they argued that “knowledge” may be seen as a product or an effect of a network of heterogeneous materials. (Law, 1992)

ANT can be difficult to summarize, not least because its proponents often argue against their prior positions. Latour famously stated: “there are four things that do not work with actor-network theory; the word actor, the word network, the word theory and the hyphen!” (Latour, 1999) though he recanted this rejection in 2005. Actor-Network Theory describes social, scientific and technological innovations and processes in terms of relationship networks between agents (or “actants”) that interact both materially and semiotically to produce a resource, entity or concept. A key attribute of ANT is that it includes non-human actors in its description of networks – they can equally be a biological entity, or even an artifact, particularly a machine. Actors are just “entities that do things” (Latour, 1992). ANT describes the flux of an actor-network over time, covering aspects such as emergence, development and stabilization. Stalder (1997) states: “networks are put into place by actors. However, since there is no actor without a network, new networks emerge out of already existing ones.” Actors interact within their network through a series of “translations”.

Power relations are explored in ANT, though somewhat obliquely when compared to concepts developed by Foucault *et al.* ANT proposes the “obligatory passage point” (OPP) – the node through which most or all other actors, tokens of exchange or “inscriptions” (texts created in the network) must pass (Callon 1986, Law 1992). Examples given by the ANT authorial group are Louis Pasteur’s laboratory (Latour, 1988) or Lisbon during the Portuguese Empire (Law 1992). An OPP can be a person or object as well as a geographical location or place of work.

Actor-Network Theory carries the objective of revealing hidden aspects in sociotechnical systems (“opening the black box”). Therefore it is a suitable instrument for capturing, recording and evidencing how media production works

within and outside of an organisation, especially when self-awareness of production processes within the organisation may be low. An aspect of this thesis is the review of ANT itself as a methodological tool and the questioning of its robustness and utility in these types of critical museological contexts.

## **Case studies**

The research centred on four case studies that focused on media projects based at three museums in the UK and one in the USA. They were the Beecroft Art Gallery, part of Southend Museums service; Brighton Museum, part of Royal Pavilion and Museums, Brighton and Hove; the British Museum in London; and the Cooper Hewitt, Smithsonian Design Museum in New York.

All four institutions had undertaken projects where a new medium was to be deployed as part of their activities – Southend Museums produced a smartphone app to help explore their collection of fine art; Brighton Museum included an integrated in-gallery and online media platform as part of the redevelopment of the World Stories, Young Voices gallery; and the British Museum embarked on two major transmedia projects to support major exhibitions (*Life and Death in Pompeii and Herculaneum*, and *Vikings: Life and Legend*) centred around live “event cinema”. Of the four, the Cooper Hewitt brought integrated digital media into the heart of their museum redevelopment programme – creating a series of innovative user interfaces and displays, “driven” by a central collections database.

The case studies were selected from a candidate list of museums that had undertaken media development projects, using forms or formats that were unfamiliar to them, or were being used in a new way. Two of these were institutions

(Southend Museums and Royal Pavilion and Museums, Brighton and Hove) that were clients of the author's place of employment, the digital design and development agency, Surface Impression Ltd, and two were notable for having tried ambitious new media productions (the British Museum and the Cooper Hewitt). This choice promised good contact with relevant people and access to production documents or reports, both at the museums and at Surface Impression. The original candidate list included eight institutions, mainly in the UK, but the scope was reduced to the four used in this thesis to make the scale of research and potential repetition of situation manageable.

Interviews were undertaken during 2014 and 2015 with principal actors at these projects, as well as with people who were intimately involved with the decision making and day to day work of each media production. They were Clare Hunt, curatorial manager at Southend Museums; Helen Mears, keeper of World Art and Kevin Bacon, digital manager at Royal Pavilion and Museums, Brighton and Hove; Mathew Cock, web manager and Patricia Wheatley, head of broadcasting, at the British Museum; and finally Seb Chan, digital manager at the Cooper Hewitt. Interviews were qualitative and semi-structured, with questions designed to explore the practicalities of media production at each institution, and particularly to delve into who had been involved in the work, and what steps had been undertaken.

Production documents, emails and reports were made available to the author by Southend Museums and Royal Pavilion and Museums, Brighton and Hove. The British Museum provided access to no longer available media outputs and to web statistics. The Cooper Hewitt produced extensive open access documentation and reports about their media production and other, related activities, providing in-depth insight into their activities.

## **Ethical considerations**

The thesis author is the founding director at Surface Impression (a digital media development company that specialises in work for the cultural sector) and that position offers contact with a wide range of museums, galleries and other heritage organisations. The company undertakes around thirty to forty projects a year, working with a wide range of institutions both within the UK and overseas. These projects give access to museum staff in the process of commissioning, undertaking or contributing to their media development programmes. It also provides contact with other suppliers. This access presented an opportunity to achieve a kind of “immersion” in an ethnographic ANT study, specifically for the two case studies that focused on Surface Impression clients (Royal Pavilion & Museums, Brighton & Hove [parent organisation of Brighton Museum] and Southend Museums), but obviously attention had to be paid to ethical practice. The author observed the University of Leicester’s ethics policy (see Appendix - Ethical consent); informed consent was sought for all engagements, with explicit reference to the two “domains” that the author might be operating in (research and professional). Work on the Brighton Museum and Southend Museums projects had been completed long before the interviews took place, so commercial interaction had ceased. As Surface Impression had been acting as a supplier in the professional relationship, rather than as commissioning client, there was a lower risk that the relationship would be coercive. Despite this, however, there was a risk, that the interviewees would be “eager to please” or temper the information they provided with a view to future interactions with the company. In practice, interviewees from both institutions provided candid and detailed answers, with disclosure of a range of aspects of their projects, including those that might be considered negative.

As part of the consent form, interviewees were given the option to redact information from their responses if desired. Of the interviewees, one museum took up this option – to remove information that pertained to an organisational restructure at their institution (this request was made verbally at the end of the interview and the relevant section identified at that time) and another requested that the names of individuals would not be mentioned in any material taken from the project documents that they agreed to share with the author for the purpose of this research.

Surface Impression sometimes enters into non-disclosure agreements with clients, however, in the case of the work with Brighton Museum and Southend Museums, there was no specific non-disclosure agreement in place, both projects were undertaken according to Surface Impression's standard term and conditions. The author sought separate permission, (requesting permission as an individual doctoral researcher, rather than member of Surface Impression), to use working documents and reports for the projects and was given direct access to material from Southend Museums and Brighton Museum. The British Museum documented much of their "behind the scenes" processes in publicly published blog posts, annual reports and press releases and the Cooper Hewitt had been doing the same, but to a much larger scale and depth. Both institutions directed the author to these sources.

## **Thesis structure**

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Chapter 2 surveys the history of museum media production. Starting with publishing activities, that emerged almost as soon as museums were founded as an

institutional concept, followed by audio and film media technologies in the early 1900s, through to examples of recent media formats, the chapter explores how museums have often been early adopters of media technology. The chapter also recounts several instances where museums were major partners in the development of innovation in media technology – in particular the creation of the first planetarium in the 1920s and the audio guide in the 1950s.

Chapter 3 examines the broader theme of innovation in media technologies, forms and formats. The chapter begins with an enquiry into the conceptual models of product cycles using models derived from business studies and marketing practices. It then moves on to cover some of the conceptual frameworks used to analyse media technology development, especially when examining processes of emergence and convergence.

Chapter 4 explores the main intellectual framework used in this study; namely, Actor-Network Theory. It portrays some of the concepts and terms that have emerged from the work of Bruno Latour, John Law, Michel Callon and others, followed by a pilot analysis of a landmark piece of museum media production – the “transmedia” programme *A History of the World in 100 Objects*, created by the British Museum, in conjunction with the BBC and released in 2010. The pilot demonstrates that Actor-Network Theory is a suitable framework with which to analyse the different aspects of a complex museum media project, including production processes, content development and presentation styles.

Chapter 5 then focuses on the study’s main case studies. The chapter recounts the media development projects of four museums – the Beecroft Art Gallery (part of Southend Museums), Brighton Museums (part of Royal Pavilion and Museums,

Brighton & Hove), the British Museum, and the Cooper Hewitt Museum of Design (part of the Smithsonian group of museums). This chapter focuses on the processes, challenges and tactics used by the organisations as they undertook each project.

Subsequently, Chapter 6 critically analyses the case study production examples from Chapter 5 using the methods derived from Actor-Network Theory in Chapter 3. The discussion examines, in detail, the process of drawing in ‘actants’ (an actant being a human or non-human member of the project network) into the media production networks of the museum and the translation of those actants into entities that further the programme of each commissioner and become embodied in the media production itself. Attention is given to hidden actants in the network and how their influence manifests in the final product.

Synthesising these outcomes, Chapter 7 then steps back to examine how museums deal with the ‘new’ – in particular the unfamiliarity of media production projects where innovative technologies (either becoming established in their own right, or new to the museum itself) are undertaken. The chapter traces the actors that are enrolled into such production networks and shows how those networks might vary from more established practices. Finally, the chapter examines how the museum itself is influenced by its own media production, using the highly mediated Cooper Hewitt Museum as its key example.

This research set out to explore how, and why, museums incorporate new forms and formats of media production into their practice, and Chapter 8 draws the thesis to a conclusion. It positions the museum as a media producing entity, albeit an unusual one centred around the institution’s collections and mission. It also



positions the museum as a place of media – where the productions of the museum and its collaborators are encountered via media by its audiences. The chapter then goes on to explore the utility of Actor-Network Theory as a theoretical framework for this intersection of museum studies and media studies. Finally, the museum is presented as an organisation that engages, often enthusiastically, with innovation in the development and use of media technology, but also as a place that is shaped by the networks and outputs of media technology in return.

## Chapter 2

# Early adopters and keen innovators: Museums as media producers

**I**n the museum sector, it is not uncommon to hear a lament on how far “behind” institutions are with their use of media technologies. This refrain among museum professionals (Steele, 2013; Ansty, 2016) is reinforced by sector reports that have focused on a “gap” in provision (Council of Canadian Academies, 2015; Nesta, 2013). Other discourses exhort museum professionals to grasp the “new” and the “future” (London School of Economics, 2009; American Alliance of Museums, 2013–2016). However, these statements belie the long history of museum media production, that began nearly as long ago as museums did themselves. It is a rich history of collaboration with industry and media organisations, paving the way for numerous innovations and reinterpretations of museum “content.” This chapter explores early museum media, through a survey of notable museum media experiments and productions, drawn from institutions such as the American Museum for Natural History in New York, Stedelijk Museum in Amsterdam, Deutsches Museum in Munich and the University of Cambridge’s Museum of Archaeology and Anthropology. These examples, albeit sited at large, research-intensive institutions, demonstrate that (perhaps in contrast to commonplace

misapprehensions that still echo in the sector) museum professionals in actuality have often been very keen to adopt new media technologies as soon as they become available, and even have helped to develop entirely new technologies in order to serve particular communication objectives of their museum. The chapter concludes with a discussion of the bi-directional impact of collaboration with commercial partners, and the manner in which museums fulfil or extend their missions through the adoption of novel media forms and formats.

## **The adoption and development of media technologies**

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Although not a new media technology by the time museums were publishing, the 18th and 19th centuries saw the costs of book production continue to fall, alongside technological developments that made it easier and faster to produce books. Paper production and typesetting became mechanised and cloth binding replaced leather (Hughes, 2010; Stevenson, 2010). Museums took advantage of these developments, and began to establish publishing operations, some even commencing publication as soon as they opened, such as the Natural History Museum's (NHM, n.d.) publishing house in 1881.

Early museum publications centred on the collection catalogue, producing books that perhaps served as the only way interested persons could find out what a museum actually held. In-gallery labels could be hard to read, cryptic and sometimes absent altogether (Haskell, 2000), so catalogues acted as gallery guides for museum visitors. As the collections expanded, the publications became more varied and specialised, even if they were still essentially catalogues. For example, the British Museum published *Catalogue of Hispidæ in the Collection of the British Museum*

by Joseph S. Baly in 1858 to document this one particular form of insect (British Library Catalogue, n.d.). Writing about these catalogues in the context of art museums, Giles Waterfield classified the publications into “inventory catalogue” – giving the location, artist, title and other simple data about a work, “expository guide” – an enhanced version of the inventory catalogue that also included commentary and was produced in a format portable enough for use in-gallery, and “presentation volume” – a prestigious illustrated edition to act as a “museum on paper” – often used as gifts to visiting dignitaries (Waterfield, 1995).



Figure 2.1: From a “presentation volume” – third room, second facade of the Düsseldorf Gallery. Printer’s proof of Nicolas de Pigage and Christian von Mechel, *La galerie électorale de Dusseldorf*, 1788. (Getty Research Institute, image 870670, 2010)

## **Moving pictures and audio recordings**

Patents for motion-picture cameras began to be granted in the late 1880s and early 1890s, and by the end of the century cameras were being put to work in the field by anthropologists. Most famously, the availability of cameras (both motion and still), along with wax-cylinder recorders meant that Alfred Cort Haddon and his colleagues were able to capture images and recordings of music, dance, and life in general during the Torres Strait Expedition of 1898. Haddon brought back the expedition's artefacts and recordings to what is now the University of Cambridge's Museum of Archaeology and Anthropology (see, for example, Herle & Rouse, 1998). The approximately 300 photographs, phonographic cylinders and four minutes of film (Edwards, 1997) were captured by Haddon as a means to record a disappearing way of life:

It is our bounden duty to record the physical characteristics, the handicrafts, the psychology, ceremonial observances and religious beliefs of vanishing peoples; this also is a work which in many cases can alone be accomplished by the present generation. [...] The history of these things once gone can never be recovered. (Haddon, 1897)

The media produced is a good example of photography, phonography and film being used as a recording tool in the field by academic researchers, but its significance to museology is the manner in which the media products became as much part of a museum collection as the ethnographic artefacts that had been brought back from the expedition. Following his return, Haddon himself assisted the presentation of exhibits about the Torres Straits Islanders at a multitude of venues, including the British Museum, Glasgow City Museum and Gallery, and the

Horniman Museum in London, but a century later an exhibition could be presented from the University of Cambridge's Museum of Archaeology and Anthropology collection, which made use of Haddon's media as being representative of the Torres Straits cultures on equal terms as the islanders' artefacts that had been brought back to the UK (Herle, 2001).

By the turn of the 20th century, audio recording and playback technology, often going by brand names such as Gramophone, Phonograph or Victrola, was becoming more widespread, attracting the attention (and enthusiasm) of museum practitioners:

Prof. Anton Fritsch, of Prague, has playfully suggested that the day may come when a visitor, standing in front of some interesting specimen, will have simply to drop a coin into a slot connected with a phonograph, and forthwith he will hear a short discourse on the specimen in the very words, nay, even the very voice, of some distinguished professor [...] We already have in the Essex Museum, for the use of the public, a microscope and a spinthariscopes. Why not a phonograph?  
(FW Rudler, Essex Field Club in 1905 via Fritsch, 1904)

Fritsch's exhortation to embrace technology in order to bring the curatorial voice into the gallery came soon after European museum curators convened for the Mannheim Conference on "Museums as Places for Popular Culture," which was held in 1903 and had been reported on in that year's *Museums Journal* (1903). The very title of the conference indicates that museums were significantly shifting positions, reorienting themselves around the needs of the visitor and seeking to

enhance exhibits with the tools available.

In 1908, the American Museum of Natural History (AMNH) put Fritsch's proposal into practice, making use of gramophones to provide commentary as part of its international exhibition about tuberculosis. The exhibition was very successful; an example of the museum as a place of popular culture as per the Mannheim Conference. The show attracted more than 750,000 visitors over the course of a seven-week run, the highest attendance any exhibition at the AMNH had ever attracted (Brown, 2014). A contemporary review stated 'at every stopping-place a talking machine delivered short lectures of warning and advice' (AMNH, 1908; Griffiths 2008). Meanwhile, audio and visual material became further embedded as part of collecting practice, as recording of music became easier and as cinema and film-making began to be recognized as an art form in itself. For example, in 1907, the Paris Opera House founded what they termed a "Museum of Phonograph Records" to preserve a collection of recordings of singers of the day. This was, in fact, more of a "time capsule" with storage facilities designed to preserve the records for as long as possible, rather than any attempt to engage with the public or academia (Walsh, 2008).

Museums were also commissioning their own films as the 20th century gathered pace, the American Museum of Natural History produced its first film in 1912 – a recording of an expedition, by assistant curator Roy Chapman Andrews on a Korean whaling vessel, to collect specimens of whales. Building on the practice established by the Torres Straits expedition, the museum was funding the use of media as a recording function for expeditions that were part of its research activities. Concurrently, film had come to the attention of the education department of the institution. The museum established a film library in 1914, of its own and donated

reels, and from 1922 the library was permitted to lend out films off-site to schools. Having developed the production capabilities to document its research work in the field via film, the museum also began to produce movies for entertainment purposes, including *Simba*, the 1928 film by husband-and-wife team Martin and Osa Johnson, that was able to go beyond the walls of the institution as it enjoyed a theatrical release. Another New York institution, the Museum of Modern Art, also established a film library in 1935, which eventually became MoMA's Department of Film. Within four years of its establishment, the library was admitting audiences of 500 people to its screenings (MOMA, n.d.).

Through these developments, curators progressed from using film as a recording device on expeditions, or as a resource for exhibition in a theatre setting, to using film as a method of enhancing interpretation in the gallery. However, this raised a technical issue – the physical demands of running the same film on a constant loop for many hours a day meant that gallery designers had to develop techniques to make the film itself more robust and reliable.





Figure 2.2: 1930s "Dramagraph" film display unit from the American Museum of Natural History. (Photo: AMNH Library, image 313366, n.d.)

The AMNH's response was to install "The Dramagraph," consisting of a metal box with a screen aperture at the top of one side (Figure 2.2). Within the box, a projector ran film that had been mounted on to steel tape to prevent the projector's cogs wearing through the sprockets in the celluloid filmstrip. In the AMNH's photograph archive is an image showing the Dramagraph that was used in the North American Indian Hall to show field footage of "Pottery Making on the Rio Grande." We know from an article in the *Museums Journal* in 1931 that the Dramagraph was also used in the Science Museum in London in the 1930s (Griffiths, 2008).

These examples help to illustrate how museums have been keen adopters of novel media technologies, finding ways to make use of new apparatus and media formats in the pursuit of their activities – be that the recording of research material (Haddon’s use of film, photography and phonography at Cambridge), the preservation of media as a cultural artefact (Paris Opera House) or the presentation of interpretation to their visitors and other audiences (AMNH).

### **The museum as a site of media technology innovation**

As well as being consumers of media technologies, museums have also been active participants in the development of innovations in media technology. For example, the planetarium at the Deutsches Museum was one such museum-based research and development success. In 1913, astronomer Max Wolf persuaded Deutsches Museum Director General, Oskar von Miller to commission the optical-equipment manufacturer Carl Zeiss to create the technical apparatus for a planetarium. Prior to the commission the plan was for a “walk-in perforated plate sphere with holes representing the stars and illuminated from the outside,” (Deutsches Museum, n.d.) but a shift in ideas led the originators to consider the use of projection from the inside. Projection was a media technology familiar through a rich tradition from magic lantern slides through to early cinema, but the planetarium would require a new mechanism, featuring multiple lenses, capable of projecting astronomical features individually, timed to a presentation programme. Interrupted by the First World War, the planetarium was not completed until 1923 (Deutsches Museum, n.d).

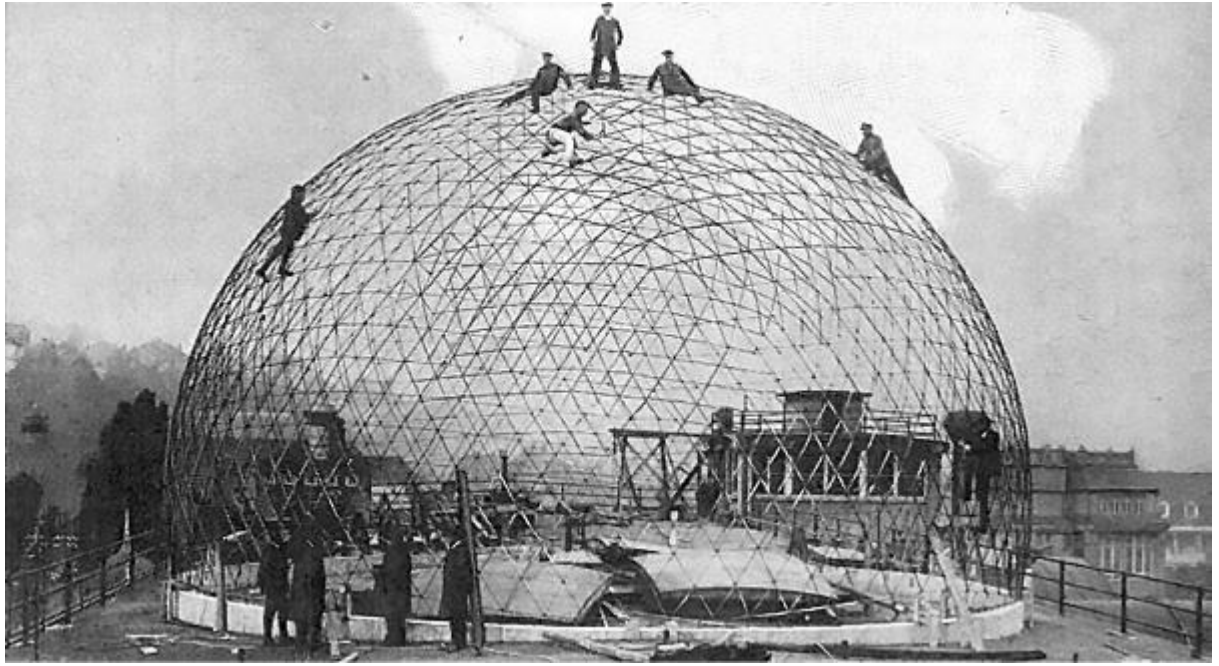


Figure 2.3: Building an experimental dome at the Carl Zeiss factory. (Photo: Popular Mechanics, 1929)

A key element of the planetarium concept was the requirement for a particular kind of venue, a dome, that when its interior was darkened and projected upon, would create a simulation of the night sky. Incidentally, the Munich development also demonstrated innovation through the structure of the dome itself – a geodesic frame was constructed, preceding R. Buckminster Fuller’s popularisation of the form by several decades (Buckminster Fuller Institute, n.d.). Part theatre, part cinema and always educational, the planetarium created a space within a space. It was a short step to realise that a planetarium could operate independently of its museum parent, and by 1930 installations had opened in Rome, Moscow, Stockholm, Milan, Hamburg, Vienna and Chicago (Engber, 2014). Technology partner Carl Zeiss also went on to market their projectors to these and other emerging venues with great success and, since then, “Zeiss Projector” has become a generic term for the machine at the core of a planetarium, even when not manufactured by Carl Zeiss itself (Chartrand, 1973).



Figure 2.4: Zeiss Mark 1 Projector the Zeiss planetarium installed at the Deutsches Museum. (Photo: Deutsches Museum, 1925)

One of the most pervasive forms of media used for interpretation within museum galleries is the audio guide. This has its roots in an early 1950s experiment by the Stedelijk Museum in the Netherlands. The Dutch electronics giant Philips helped to develop the technology, which in this case used a technique much like an induction loop to broadcast the output of a centralized tape recorder to listening devices carried by museum visitors. The devices essentially functioned as radio receivers,

with a single programme broadcast (in Dutch, French, English, and German) to all listening visitors at the same time, no doubt causing bottlenecks in the galleries as people tried to view the described item simultaneously (Tallon, 2009).

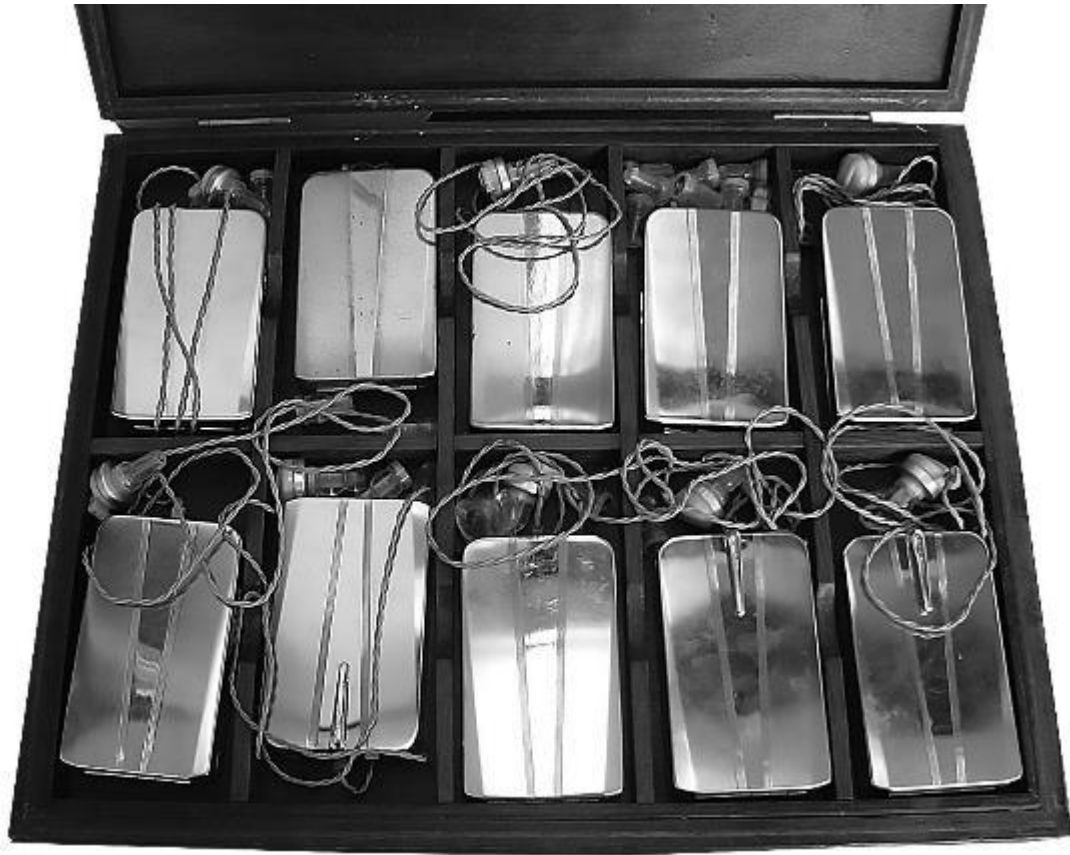


Figure 2.5: A case of audio receivers used at the Stedelijk Museum, Amsterdam. (Photo: Tallon, 2009)

In 1954, the ever-pioneering American Museum of Natural History introduced its “Guide-a-Phone” (Figure 1.2.6). From that point on, the audio guide increasingly became an established part of (at least major) museum exhibition practice. In 1957, the medium became a service offered by the private sector, with the founding of Acoustiguide, which was launched with a tour of Hyde Park, the home of President Franklin D. Roosevelt (Acoustiguide, n.d.).



Figure 2.6: The 1954 Guide-a-Phone from the American Museum of Natural History. (Photo: AMNH Library, image 323699, n.d.)

## Mass media in the 20th Century

In the 1920s and 1930s, museums had been invited to present lectures on broadcast radio stations, one example being the Brooklyn Museum's Curator in Chief, Daniel M. Fox, who was being heard on WNYC public radio from 1922 (Brooklyn Museum Archives, n.d.). The focal point for both the broadcaster and the museum in this programming seems to have been education. Broadcaster CBS (Columbia Broadcasting System) became an outlet for lectures by the American Museum of Natural History, under the programming strand "the American School of the Air." In the Movie and Radio Guide listings magazine from the 1940s, a listener breathlessly recounts:

One day young Ken stayed home from school with a bad cold. That bad cold turned out to be the luckiest bit of misfortune that ever happened to me. I bundled him up on the living-room couch, turned on the radio and went out to market. When I came back, I found young Ken listening, fascinated. I sat down and listened, too. What I heard was a vivid and dramatic description of exploration in the Gobi Desert. The speaker, Dr. Roy Chapman Andrews of the American Museum of Natural History of New York, was recounting one of his fossil-hunting expeditions. I found myself hanging on his words, holding my breath as he described the dangers and thrills of the trip, sighing with relief as the caravan arrived at its destination. When he stopped speaking it was announced that this was part of the American School of the Air course, heard daily except Saturdays and Sundays over the Columbia Broadcasting System. (Badger, 1941)

The big mass-media development in the USA during the two decades following the Second World War was television and by 1955, 64.5% of United States households had a television, up from just 9% only five years before (Television Bureau of Advertising, 2012). Even in this mass-broadcasting context, where the financial barriers to entry were high, museums were also present and helping to drive innovation – as well as providing content and expertise in partnership with industry players. Most notably, the University of Pennsylvania Museum of Archaeology and Anthropology teamed up with CBS to produce the panel show *What in the World?*, which ran from

1951 to 1965. The museum's own account of the series reads:

By the early 1960s it was one of the oldest programs on television, bringing positive reviews and a steady stream of fan mail to the Museum that continues to this day. On each *What in the World?* program, four or five unidentified objects were presented to a panel of experts who were asked to guess what each piece was, where it came from, how old it was, and how it was used. Objects were selected from storerooms and had never before been seen by the panel. Before the experts guessed, the audience was told what the object was, and, during the course of the program, could watch the thought processes of real – and often fallible! – anthropologists and archaeologists. After they had completed their identification, the moderator, Froelich Rainey, Director of the Museum, told them whether they were right and if not, gave the correct identification. Only four episodes of the show survive. The special guest on one of these was the famous actor (and collector) Vincent Price (Penn Museum, n.d.).



Image removed due to copyright restrictions

Figure 2.7: Jacque Lipschitz, Carleton Coon and Vincent Price on *What in the World?*.  
(Photo: Penn Museum/CBS, 1955)

Despite the rarefied nature of the programme's subject matter when compared to other TV quiz shows aired in the USA at the time, *What in the World?* was popular enough to be shown at prime time. In his obituary for the show's moderator Froelich Rainey, John Bockstoe expressed amazement that 'a small group of experts could have been even remotely interesting as they sat stiffly under severe studio lights discussing the provenance of obscure artifacts, yet for a vast amount of people they were fascinating' (Bockstoe, 1993). *What In the World?* was one of the first media productions to provide viewers with access to people "backstage" at the museum; something that later expanded into a distinct television format (see, for example, the BBC's [British Broadcasting Corporation] 2010 productions; *Museum of Life* and *Behind the Scenes at the Museum*) that tapped into audiences' curiosity for how cultural productions are made.

The UK television audience was also growing in the same decade; in March 1953 slightly over 2 million television licenses were issued, and by 1959 the figure had risen to 10 million, 59% of all households (British Film Institute [BFI], n.d.; British Audience Research Board [BARB], n.d.). The television “format” of the *What in the World?* was borrowed by the BBC in 1952, becoming the series *Animal, Vegetable or Mineral?* (Attenborough, 2009), with Mortimer Wheeler at the helm. Wheeler was an archaeologist of some repute and founder of the Institute of Archaeology in London. He had been director of the National Museum of Wales, the London Museum (later to become the Museum of London) and Director-General of the Archaeological Survey of India (Piggott, 1977).

A staff member of the production team was David Attenborough (later to become the UK’s most recognised naturalist and broadcaster) as part of his role, his job was to travel to British museums to fetch objects to be featured on *Animal, Vegetable or Mineral?* finding “it would turn out, of course, that he himself had actually excavated it and that he knew it backwards” (Attenborough, 2009). Attenborough was able to witness first hand the surprising impact of television exposure of an “educational” topic, when packaged in the right format:

*Animal Vegetable Mineral?* went from success to success. It may come as a surprise to many here that in 1956 Sir Mortimer – an archaeologist not a pop singer – became Television Personality of the Year. And he deserved it. Librarians around the country told us that shelves on which archaeological books had sat untouched for decades were suddenly emptied. Archaeology had become a huge popular success. It was of

interest to anyone with any degree of intellectual curiosity. It was a sensation. (Attenborough, 2009)

The US and UK programmes even came together to host a joint show in 1955, with panelists from both shows examining the same objects, on both sides of the Atlantic. Much more recently, in 2015, the format was revived and updated into the BBC Four series *Quizium*. (BBC, n.d.).

## **Innovation through computer-based media**

In the second half of the 20th century, developments in digital computer technology increased in momentum. In 1967 the Museum Computer Network was formed (Misumas & Urban, 2007), as a coming together of US museum professionals who were exploring the potential of computerisation for museum records. Initially focused on the development of a common record-keeping infrastructure (reflecting the centralised mainframe paradigm of computing during the 1960s and 1970s), the organisation shifted in the 1980s to focus more on support, skills, sector advocacy and common interchange for museum information (in particular collections records), becoming more international in membership as time went on. A key part of this activity was the organisation's regular conferences - and as computer technology increasingly became part of media technology, ideas, methods, approaches and case studies were shared through these conferences and the organisation's newsletter *Spectra*. A 1976 article, for example, announced "The Coming of the Video Disk" (Museum Computer Network, 1976), exploring the potential in a museum context for the format that had been released the year previously.

Other early examples demonstrate how museums were keen to experiment with these technologies to help mediate their own messages and content as a means to engage with their audiences. One such example is a computer-based exhibit at the Evoluon, Eindhoven, that was installed in 1970. Named the Senster, this was a four metres tall robotic sculpture that was displayed in a prominent position in the flying saucer-shaped museum. The Evoluon itself was a science museum, opened in 1966, and conceived by Frits Philips as a permanent celebration of the 75th anniversary of the electronics company Philips (evoluon.org, n.d.). The exhibition design for the entire museum was contracted to British designer James Gardner. For the entrance area of the museum, Gardner commissioned a cybernetic sculpture from artist Edward Ihnatowicz, after Gardner had seen an earlier piece, SAM – Sound Activated Mobile, at the ICA (Institute of Contemporary Art) in London. Resembling a flower set upon a metal spine, SAM used microphones and electronic circuits to react to visitors to the exhibition and follow their movements as they proceeded through the gallery space. Made of steel and aluminium, the Senster expanded the SAM concept to a much larger scale and looked somewhat like a cross between an electricity pylon and a giraffe. It was fitted with microphones and a Doppler movement radar, and would swing its “head” and “neck” around to the source of noise or movement in the room. A Philips P9201 (a rebranded Honeywell) computer was employed to interpret the input signals coming from the sensors and modify the movement of the sculpture accordingly. This digitally mediated feedback loop made the Senster appear to behave like a living creature, reacting to its environment and museum visitors; thus demonstrating the connection between sense and response found in the natural world (Gardner, 1993).

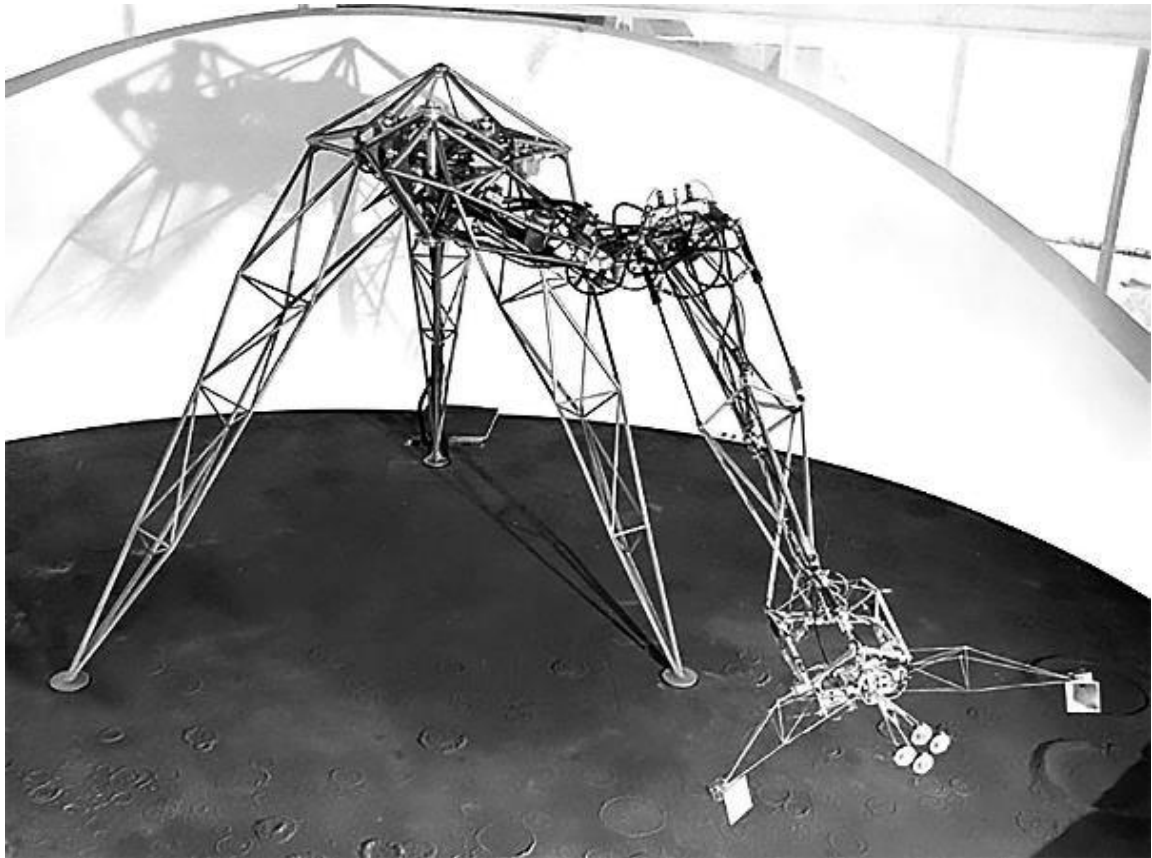


Figure 2.8: The Senster on its base at the Evluon Museum. (Photo: Philips Archive, 1970)

With the further development of computing, and the advent of computers with graphical user interfaces in the mid 1980s, (notably the Apple MacIntosh) some museums quickly adopted the technology to enhance their exhibition spaces. A case study in the very first issue of *The International Laboratory for Visitor Studies Review* looked at computer usage in a travelling exhibition from the Smithsonian Institution's Traveling Exhibition Service (SITES) entitled "Laser at 25" (Hilke, 1988). The article described the activity as:

The computer program consisted of two modules: a tutorial module that explained how lasers function and an applications module that demonstrated four current uses for laser technology. The program consisted primarily of

animated demonstrations coupled with explanatory text.

Visitors controlled the pace of the presentation by pressing a space bar to move on to the next screen. At three points visitors took a more active part by typing a telephone number, setting energy levels for laser emission, or playing a game. (Hilke, 1988)

This early digital interactive was well-liked by visitors, Hilke's study revealed that "It attracted more visitors than any other single unit" [the exhibits were installed in cases that were termed "units"] (Hilke, 1988). The positive visitor response to computer-enhanced exhibitions may well have encouraged curators, directors and exhibition designers to push for more experiments with information technology and the medium became an established part of the gallery "tool kit".

### **The last analogue platform – video**

Video technologies came into their own at the end of the 1970s and the early 1980s, and many museums used the medium as a means to deliver audiovisual content within the gallery spaces, or as a dissemination format – selling videotapes of a multitude of topics. Some institutions went as far as to install elaborate systems of videotape-based storage and retrieval, including the videothèque. Examples of its usage in museums include the National Museum of Ethnology in Osaka, Japan (Kubo, 2017) and the Centre Pompidou in Paris, France (Velthoven, 1988). The videothèque, first installed at Osaka in 1977, provided a system of tape storage and playback, using a robotic retrieval system to automate the selection of tapes and their transport to a playback machine. The videothèque system was integrated into the interior architecture of the National Museum of Ethnology, with 28 viewing

booths arranged around the centre of the building (National Museum of Ethnology, n.d.). Although the video delivery technology has been updated and replaced over the years, the concept of presentation of extensive film-based resources within the museum space remains to this day.

Image removed due to copyright restrictions

Figure 2.9: The videothèque retrieval system, Paris, showing robotic retrieval mechanism. (Photo: Mediamatic, 1988)

Image removed due to copyright restrictions

Figure 2.10: Video "pods" at the National Museum of Ethnology in Osaka. (Photo: NME n.d.)

## **Working with the web**

The World Wide Web (as an distinct service within the wider network of the internet) began to take off in the mid 1990s. By 1995, there were an estimated 38 million web users (World Bank, 2010). As we have seen, there have always been a tendency for a section of museum professionals to be keen to adopt new technologies to serve their curatorial (and other) goals, and the web presented an opportunity that many were keen to embrace.

“Early adopter” museums included University of California Museum of Palaeontology at Berkeley, The Natural History Museum and Museum of the History of Science, Oxford (Bowen, 2005). Initially the technology was fairly restricted, having been designed specifically to serve content that followed a



document paradigm across a global network. Even now in 2012, web usage is generally presented as “pages”, so this paradigm, borrowed from publishing, has well and truly stuck, despite some experiments to shift presentation and usage styles to other models. The innovative aspect of the web was the incorporation of hyperlinking into the format. This means to follow sequences between pages and to discover other pages of interest, whether in a particular website or in the web as a whole was the crux of what gave the World Wide Web the potential to become the massive thing that it is today.

By the second decade of the 21st Century, it is rare to find a museum (even at the level of very small volunteer-run museums) that does not have a web site of some kind. The Museums Association’s 2018 survey of UK museums revealed that 92% of museums have websites under their own control, with the bulk of the remaining institutions being part of wider website arrangements, such as a local authority website (Museums Association, 2018). At the very least, museum websites serve as an online brochure, offering visitor information such as opening hours, directions and more or less detail about the exhibits and facilities to be found at the venue. Many museums have gone much further, incorporating the web into their communication, education or other activities – in effect, creating a publishing and broadcasting platform.

Although early web pages followed a document paradigm, software providers, site owners and browser manufacturers were keen to incorporate other forms of media. Audio was first incorporated into the Netscape browser in 1995 (Lashinsky, 2012) and video became available via the Real Player plug in in 1997 (Grant, 2003). The opportunity to make the web browser more interactive was first tackled by combinations of links and web “forms”, but technologies such as Javascript and

Flash were adapted or created to enhance browser activity and to incorporate “richer” (animation, audio, video) content. Various “server-side” technologies enabled web servers to perform logical routines, enabling interactivity or providing access to databases. These technologies (such as Perl, PHP, .Net and Java) made it possible for museums to enrich their online offer. Video and audio uses have been described above, but Flash has been utilized extensively to run educational games and activities on museum websites and server side programming logic has been a facilitator for the drive to make collection records databases accessible online.

Museum professionals recognized early on that the web was likely to become an important part of their work – in 1997, the Museums on the Web conference was started in the USA and has grown year on year to become a significant annual event, complete with trade show, awards, social gatherings and an international audience. (Museums on the Web, 1997). In the UK, the Museums Computer Group began a specialist web-themed conference (UK Museums and the Web) in 2001 (Museums Computer Group, 2009). The proceedings of both chart the major themes of sector website development, from early experiments of the late nineties through to the varied initiatives of today.

The success of the internet and rapid growth of the World Wide Web from the mid 1990s, and the reduction in production costs and spread of skills made possible by digital media have reduced barriers further and excited practitioners further. Museums can now create audio visual material at very low cost and release it to their actual or potential audiences via their own websites or via established social media or social content platforms (Facebook, Youtube, Vimeo etc).

“Broadcasting” online has become a common activity for many museums. The

video-based, social content platform YouTube offers the museum access to a huge potential audience, and the ability to group submitted videos into “channels” (borrowing the language of television). Channels can be made to reflect the visual identity, or “brand”, of the museum. Individual video clips can be viewed through the main YouTube web interface, through the museum’s channel, via mobile device or smart TV and they can also be embedded directly into the museums own website and (some) social media pages. This embedding represents a convergence of medium and outlet, whereby the diverse web pages and devices serve the same film that is stored in a centralized repository.

Submitting a film to YouTube is very forgiving to the non-expert, with much attention having been given to making the process as easy as possible. Inexperienced digital film makers often struggle with the file formats of their video files, as the plethora of encoding options for both video and audio streams is overwhelming and information about which parameters to use for encoding, size, streaming option, frame rate or “key frame policy” is confusing. YouTube accepts files in a huge range of original formats and undertakes re-encoding itself in order to present the film in an optimum manner for the point of usage.

Museums that use YouTube vary greatly in place of origin, size, independence and theme, with council run “town” museums at one end up to “global brand” museums such as the Tate or Musée du Louvre. Interestingly, the average plays per video per institution is highly variant, indicating that there is no natural correlation between size or brand awareness of the museum and the popularity of its offerings. The study, *Beyond Launch: Museum Videos on YouTube* (Alexander *et al*, 2008), presented at the 2008 Museums and the Web conference, showed that this lack of natural correlation between institution and popularity of video has persisted over the past five years and no natural pattern has arisen. Other metrics in the study,

(number of comments and video comments, traffic increase or decrease back to the institution websites, type of video and length of video) also stubbornly failed to show clear usage patterns or to perform according to preconceptions (for example user commenting levels were lower than expected). However, as the writers state:

Often, it is more qualitative feedback that will prove useful. For example, at the SJMA, the videos are featured on YouTube and iTunes (like the other institutions) but are also featured on video iPods that are available for checkout within the galleries. Visitors have often made comments about wanting to see the artists whose videos they saw on-line, so the assumption can be made that physical traffic is being influenced by the on-line video initiatives. In another case at the SJMA, a catalog for an artist featured in their videos, including those on YouTube, was the first catalog to sell out at the institution during its exhibition run. Many of the sales were made over the phone, where the purchasers commented about seeing the video of the artist on-line. (Alexander *et al*, 2008)

As streaming video is to television, so “podcasting” is to radio. The term “podcast” derived from Apple Computer’s iPod series of music (and subsequently music and video) players. Apple themselves describe a podcast as:

[...] a show, like a radio or TV show, with episodes you can download and play. To find them, go to the iTunes store and click podcasts. Here you’ll find over 100,000 podcasts from

around the world, and all of them are free. When you find a podcast you want, click 'subscribe' and the latest episode will start downloading to your computer. iTunes automatically downloads new episodes to your library as soon as they're available. (Apple Inc, 2012)

It was this combination of audio or video file, "subscribed" to by an audience member and delivered episodically to their media player device, that made podcasting a broadcast medium in its own right. However, once the term became widespread, its meaning spread to encompass any audio (and sometimes video) file, and this has been accepted to the point that the Oxford Dictionary definition is: "a multimedia digital file made available on the Internet for downloading to a portable media player, computer, etc." (OUD, 2012).

The adoption of podcasting as a medium by museums has been relatively widespread, both in its original episodic, automatically downloading form and as simple files made available on the web. Lena Maculan, writing for Culture24, explored motivators for podcasting, both positive and negative:

Within the context of questions of how museums could exploit the web as medium to make their collections more accessible, as well as to enhance interactivity with their audiences, podcasting potentially offers an exciting new means of communication. [...] The BBC's *Take One Museum* has already started providing downloads of museum audio tours: against competition like this, museums risk losing audiences to other content providers if they don't engage in

podcasting themselves. (Maculan, 2006)

By way of example, notable podcasts include the Australian state museum group, Museum Victoria, and its *Access All Areas* series. Currently standing at 27 episodes (as of October 2012), the podcast taps into the popular “behind the scenes” strand exhibited in the TV series *Museum of Life* mentioned above. With an affable tone, collections are delved into for personal and scientific insight, the “secrets” of the construction of exhibitions are revealed and curators own stories portrayed. The series won the podcast/audio/visual category at the 2011 Museums and the Web conference’s “Best of the Web” awards. (Museum Victoria, 2012)

The previous year’s podcast winner was also Australian, this time the institution was the National Museum Australia with their *Audio on Demand* series. In this case the podcasts package up “recordings of key past and current lectures, forums and symposiums held at the National Museum of Australia” (NMA, 2012).

The different approaches shown by these two Australian creators demonstrate some of the content choices faced by institutions when “casting” via video or audio. Should the institution create new material, or package up re-existing content for redistribution in this way? For what purpose is the content ultimately? In her PhD thesis *Researching Podcasting in Museums*, Lena Maculan explored a potential typology for podcast material (Maculan, 2008). Her categories were organized into three broad sections: 1) before or after a visit, 2) During a visit and 3) Independent of a visit. This echoes the “before, during and after visit” classification of activity often used by museum educationalists to classify activity around their resources (Marty, 2007).

## Moving to mobile

The popular uptake of mobile devices (smartphones and tablets) from 2007 onwards (when the iPhone was first released) forced museums to respond. Writing in *Museum Practice*, Rebecca Atkinson drew a parallel between the history of websites and the new trends:

It is almost unthinkable today that any organisations or business wouldn't have a website. Failing to embrace the internet is not only deemed out-of-touch – it risks an organisation becoming invisible in an age when people increasingly manage their lives online. But technology doesn't stand still [...] in 2011, nearly 50% of internet users connected using their mobile phone, up from 23% in 2009, according to the Office for National Statistics internet access survey. Some [museums] have embraced mobile technology and there are pockets of innovation across the country, with museums developing smartphone apps, augmented reality projects or QR codes on labels, as well as the more traditional handheld guide. (Atkinson, 2012)

A key example of an early, innovative, museum-produced app is the Museum of London's *Streetmuseum*. This was released in 2010 and makes good use of device functionality, utilizing global positioning satellites, compass, maps, photos and camera to produce an "augmented reality" view of London. Photographs from the museum's collection are positioned as an overlay over physical space. The app displays the image as a semi-transparent layer over a view of the "real" world as

relayed via the phone's camera. The user interacts with the photographs by going to the places where they were originally taken and then comparing the images with the present day scene. Supplementary text is also given with each photo, giving the museum a chance to convey interpretation to the user (iTunes catalogue, n.d.).

The pro-innovation voices and anti-“dumbing down” reactions that were observed in the early 1900s, re-emerged to debate use of mobile media by museums, just as they had for every step made in the intervening years. In a local newspaper feature on the Royal Pavilion and Museums, Brighton & Hove app, one member of the public commented: “Experimenting with these (relatively) new forms of technology is a very good idea. It can only encourage more and younger people to discover the past of the city” to which another responded: “Paris museums look as if they have hardly changed in a hundred years, yet families pack into them every weekend, it's not about playing gimmicky games, it's about learning to look and think”. Parisian establishments were defended by a third contributor: “Don't know which Parisian museums you've been going to but the ones I've been to have changed a hell of a lot in 20-odd years. And the Louvre and Paris Museums consortium both offer mobile phone apps. It's becoming fairly standard. They've got to move with the times” (Comments on Argus article by Lumley, 2011).

At the beginning of 2010, Apple released the iPad, which prevailed against what had been a difficult market for tablet computers, and by late 2012 84 million units had been sold (Apple Q4 2012 results), with many similar products sold by other manufacturers. The larger screen area, combined with a similar feature set as smartphones, has prompted some museums to produce apps targeted at just this product. Some releases originate from the museum publishing house as outlined above, but others are produced as part of the museum's core activities, often



expressed in terms of collection or exhibit. For example, The Design Museum Collection for iPad was issued in 2012 with the following promotional text:

The Design Museum Collection App for iPad presents 59 remarkable objects from London's Design Museum; these key pieces from the collection are explored through film, audio, text and photographs. Search options include: time, material, colour, location, manufacturer and designer. Classic pieces include: the Anglepoise lamp, the Dyson vacuum, the Thonet chair, the Face magazine, the British telephone box, the Vespa and the Kindle, a recent addition to the Collection. The App includes video commentary from Deyan Sudjic, Design Museum Director, and Helen Charman, Design Museum Head of Learning. Stephen Bayley – Design Museum Founding Director has also written an observation on each item. (iTunes app catalogue, 2012)

Just as content management systems have become an established part of website production, so the same concepts have been applied to museum app production. Several new companies have arisen that seek to serve the museum sector with content managed apps that use pre-set templates to deliver content to the end user. Toura was a USA-based example, that produced a range of apps from 2011, including *Treasures and Royal Manuscripts: The Genius of Illumination* for the British Library, *Highlights of the Collections* for the J. Paul Getty Museum and *The Medieval & Renaissance Galleries* and *The Cult of Beauty* for the Victoria & Albert Museum (Toura, n.d.).

Researching and writing a PhD thesis on the subject of media technology, especially

over a span of seven years, runs the risk of never quite catching up with the new products and innovations that museums have adopted. As soon as one application of technology has been described, another “good example” has emerged and been applied. During the course of this research, many noteworthy media technologies have appeared, or been applied in different ways, whereas others, such as smartphone apps, have fallen from grace with the sector (note: some of the mechanisms behind this are explored in the next chapter). Areas of innovation include the revival of Virtual Reality in the museum setting (Natural History Museum, 2018), the application of robotics (for example a Google Collaboration at the Science Museum [Found, 2012]) and many advances in projection and the sensing and reaction to visitors’ movement.

Figure 2.11 below shows, in diagram form, the relationship between the museum and its media “channels”. As new media technologies emerge, previous technologies are not necessarily replaced – in fact the more likely outcome is that the number of channels simply increase. The museum accumulates more ways to connect its work with its collections with the audiences that it can reach, but all the while it also accumulates more media production demands on its resources.

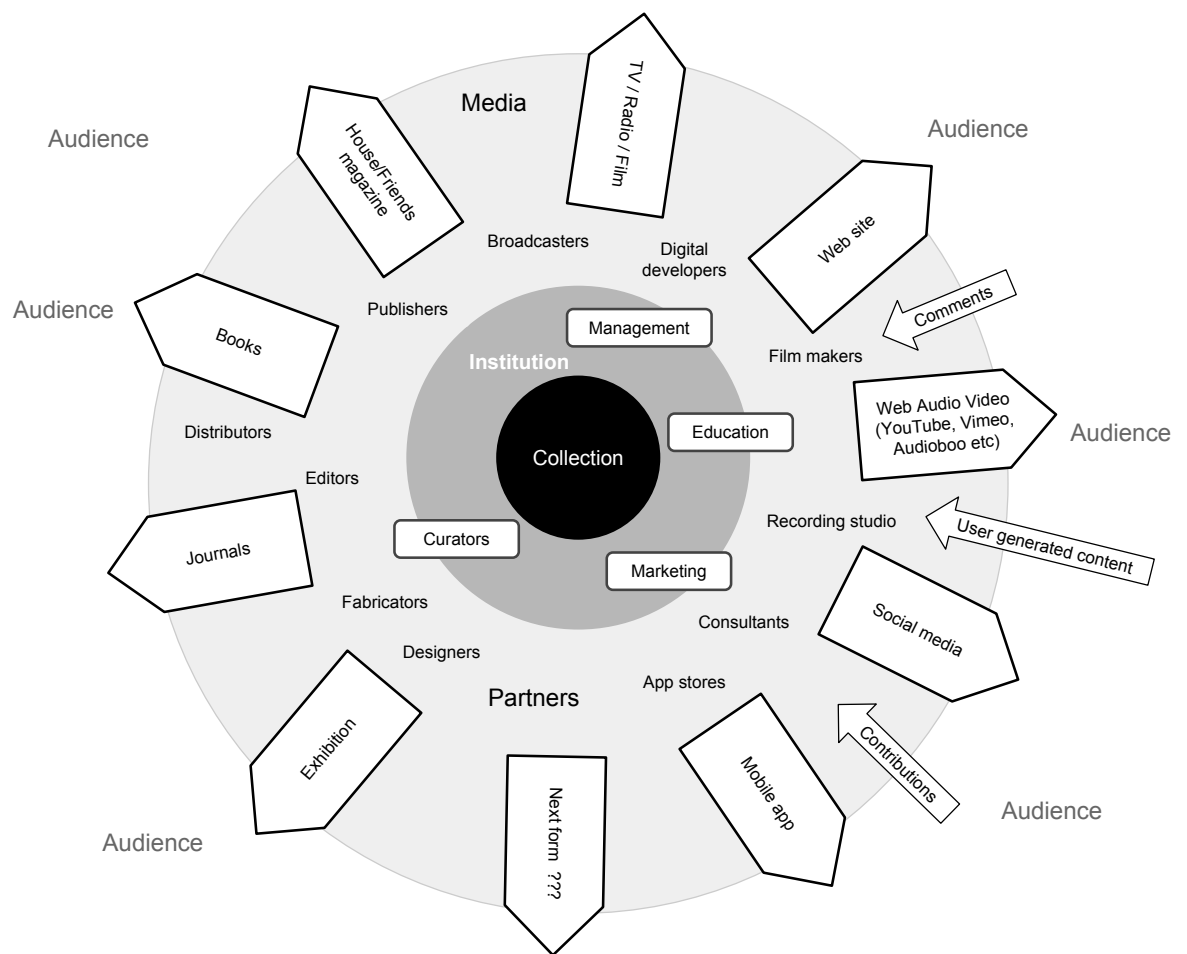


Figure 2.11: Diagram of museum media "channels" and their relationship to the institution and the collection

## Working with collaborators

To realise the projects described in these examples, museums had to engage with companies involved in media production. Some of this engagement was purely by purchasing equipment and material that was already available, but many of these examples required a far greater degree of collaboration. The Deutsches Museum Planetarium involved Carl Zeiss in such a degree of research and development that the company actually built a mock up dome on the roof of its factory between 1919 and 1923, in order to test their projector designs (Deutsches Museum, n.d.). Exhibition designer James Gardner commissioned artist Edward Ihnatowicz to create the

Senster for electronics giant Philip's new Evoluon museum. Ihnatowicz taught himself how to programme the wardrobe-sized computer provided by Philips, but in the end their engineers had to help him in order to master the complex relationships between the Senster's sensors and its movements (Gardner, 1993). The Penn museum became an integral part of a CBS studio production, as *What in the World?* was broadcast over fourteen years.

Innovations such as the planetarium or the audio guide became something that could be further exploited outside of the direct relationship between client museum and supplier company. The Carl Zeiss projector became the foundation of hundreds of planetaria worldwide. The 1950s development of the tape-based audio guide at AMNH was followed swiftly by the founding of Acoustiguide in 1957 – a company that has sustained until the present day, providing audio guides for a huge range of museums and other venues around the world (Acoustiguide, n.d.).

## **Motivations for media innovation by museums**

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In the preceding pages of this chapter, we have seen that museums have often been enthusiastic adopters of new media technologies. They have made use of many innovations early on in their development, often before the technology has been proven in the market or stabilized technically. Museums have even been part of the development of a medium, as we saw with the planetarium and the audio guide.

Given that museums are producing media, the question that follows is why do they do so? What motivates museums go to the trouble of producing these outputs? To do so involves considerable effort on the part of museum staff – agreements

with colleagues, managers and stakeholders must be secured, outside collaborators or suppliers recruited and briefed and above all, a new media technology mastered and its limitations and / or failures managed. To get to grips with a medium involves the learning of both the format and the form – these terms are often used interchangeably in common parlance, but here we mean “form” to be the style and approach to content that will be delivered through a medium and “format” to be the container that is used for that delivery. The form of the American Museum of Natural History’s “Dramagraph” film was a documentary field recording of pottery making by Native American peoples, the format was a 16mm celluloid film, mounted onto steel tape for longevity (Griffiths, 2008). The form of the *What in the World?* series drew cues from quiz shows, but found ways to introduce both scholarship and celebrity into the presentation, its format was a half hour television broadcast on the CBS network (Penn Museum, n.d.). Sometimes the form and format had to be developed from scratch – the planetarium form was developed into a series of scenes of the night sky, narrated by an expert in astronomy and delivered to a static, seated audience, its format was a projection of images into a custom-made dome construction.

Museums do not come to questions of form and format without experience, for almost all museums are highly focused on their own intrinsic form, the exhibition, and format, the gallery space. A gallery exhibition is presented to the public having been through a process of conceptualisation, design, selection, construction and content creation, all with an audience in mind – it can be argued that in essence it is a form of medium itself (Kaplan, 2005). It is by creating exhibitions that much of the museum’s experience of media production is acquired and developed. However, like all media, there are limitations to the gallery exhibition that constrain presentation, so museums have been motivated to adopt other types of media as they have arisen, to try to ameliorate those limitations. Although they have to learn, or even develop, the

form and formats of each new medium that they try, their experience in producing interpretation in a form that suits their primary format is transferable, and reduces barriers to entry. Reviewing the historical examples in this chapter, we can see that the projects fall into the following groupings.

## **1. Extending gallery interpretation**

Early museum galleries contained much less visible interpretation than those contemporary to us. Labelling was minimal, sometimes non-existent, and was often restricted to handwritten labels attached to objects. In time, written curatorial interpretation found its way into the gallery space, in the form of extended captions, wall panels and large format graphics, but again, the finite space of the gallery means that these must be limited in quantity. Additionally, a gallery full of information becomes overwhelming for the visitor. Incorporating different media extends the ability of the gallery to deliver interpretation without using every available space for text.

Several of the examples explored above attempt to provide more interpretation in a finite space. For example, the gramophones used in the American Museum of Natural History (AMNH) International Tuberculosis Exhibition in 1908 and 1909 gave visitors access to hundreds of words by curators and experts, but only gave up the gallery space equivalent to a record player. The development of the audio guide, starting with the Stedelijk Museum's 1952 experiments with radio transmission and the AMNH's Guide-a-Phone audio tape player, greatly expanded the amount of interpretation that could be presented to the visitor, without any spatial cost at all. Since then, audio guides have become a fixture in many museums and visitor attractions, supporting an industry of suppliers and generating income for many

venues.

Some media types allowed interpretation to be extended in both depth and time – for example, the Dramagraph-based film at the AMNH connected the artefacts on display with footage of Native Americans making similar objects to those in the gallery. By observing the actions rendered in the Dramagraph’s moving pictures, visitors could see how people moved and manipulated tools or materials in the production of pottery – and their understanding of the artefacts enhanced.

## **2. Preserving content beyond the life of an exhibition**

Many exhibitions are temporary, but impart to the museum great prestige and many opportunities to engage with their audiences, sponsors and other stakeholders.

Capturing an exhibit into a media format preserves the content, even if the form must mutate somewhat during “capture.” More significantly, turning an exhibit into a media product also helps to extend the benefits to the museum for a longer time span. Publishing, from princely volume to the coffee table book, has been a key point of alternative dissemination of exhibit content, coupled with the accrual of status and (sometimes) income from sales. More recent methods of lifespan extension include DVDs, “online exhibitions” and dedicated apps.

## **3. Developing tools for education**

A highly creative motivation for media production by museums is to be able to explore a topic in much greater depth. In particular, science museums are particularly drawn to this mode of interpretation, where the construction of an item to communicate knowledge is positioned on almost equal terms with the objects from the collection. The Evoluon’s Senster, installed in 1970, was commissioned

by the museum's exhibition designer in order to demonstrate the feedback loops between senses and behaviour that can be found in the natural world (Gardner, 1993). The robotic sculpture moved according to the digital interpretation of stimuli to its sensors, but it required interpretation in the traditional exhibition forms of text panels and diagrams that were adjacent to the Senster's setting. The Planetarium, however, was a larger-scale project, requiring the construction of a dedicated space, the development of a means to project astronomical features into that space and the creation of a theatrical programme to interpret what was being shown with a live narrative. In this case, the museum separated itself entirely from collected objects or gallery exhibition forms of communication (labels, panels) and created something that was capable of standing alone. The motivation was to educate the public, exclusively by using the knowledge embodied in the museum, rather than any of its artefacts.

#### **4. Going beyond the walls of the museum**

This motivation to communicate and educate, even without reference to collections, springs from the mission espoused by so many museums. The American Museum of Natural History was incorporated with the purpose of “encouraging and developing the study of Natural Science; of advancing the general knowledge of kindred subjects, and to that end of furnishing popular instruction and recreation” (AMNH, 1908). The Deutsches Museum's present mission is to be “an outstanding place for communicating scientific and technical knowledge and for a constructive dialogue between science and society” (Deutsches Museum, n.d.). The University of Pennsylvania Museum of Archaeology and Anthropology states that it was founded in 1887 to “bring together under one roof artifacts that evidenced the development and history of humanity from antiquity to the present” and then goes on to declare



that it exists to “transform understanding of the human experience” (Penn Museum, n.d.).

With these lofty goals, it is no great surprise that the museums saw no barrier to their activities at the extent of their physical domain – namely their own buildings. The AMNH was happy to contribute programmes to the American School of the Air and the Penn Museum to make such a large commitment of their time and resources to the CBS panel show *What In The World?* over its fourteen-year run. The Senster and the Planetarium were developed purely to impart knowledge, without reference to objects and the radio and television shows were developed to disseminate knowledge, without the need for a physical museum. Both approaches continued to fulfil the mission of their institutions, even though form and format were a world away from the gallery exhibition.

Museum missions and strategies have evolved to incorporate media into the heart of their texts. Where there are off-shots, for example in museum publishing houses, we see editorial missions that closely follow the mission of the main institution, for example Margaret Robe of the British Museum Press drew a parallel in an interview in the publishing trade press:

Our publishing mission follows that of the British Museum, a museum of the world and for the world. We publish books across ancient and contemporary world cultures, their art and artefacts, their past and their future. Our list includes titles for very different markets – including general readers coming fresh to a new subject, experts seeking the very latest research and discoveries in their field, and children and families.

These highly-illustrated books cover archaeology, history, the Classical world, the Renaissance, treasures from the Middle East, Asia, the Americas, Africa, and much more – all drawing on the extensive collections of the British Museum. (The Book Depository Blog, 2008)

The museum's main mission statement already specifically mentioned publishing and media by 2002, as evidenced by this statement of aims in their 2002-2003 annual report:

The aim of the British Museum is to hold for the benefit of humanity a collection representative of world cultures and ensure that the collection is housed in safety, conserved, curated, researched, exhibited and made available to the widest possible public. [...] Consistent with this aim is the Museum's mission to inspire and excite visitors and other users of the Museum, helping them to enjoy the collections to the fullest extent, through well-presented and serviced public galleries and study collections, world class exhibitions, education programmes and publications and imaginative use of media. (British Museum, 2003)

Stated objectives and strategies have evolved to include media activities, particularly with digital media, for example the British Museum states in its 2008-2012 strategy:

By 2012, the Museum's physical presence in London will be complemented by a globally accessible media resource,

including multimedia products, digitised archives and broadcast programmes which will make the Museum's world-class collections available to a global audience. As a result, visits to the Museum's main web site should double to over 14m by 2012. This will require at least one and maybe multiple partnerships with world-class media or technology companies. (British Museum, 2008)

Obviously, the museum sector is not homogenous, and naturally the activities of a large national such as the British Museum are different from those of an independent, regional or local-authority run museum. However there has been pressure from funding bodies and museum development agencies to incorporate a strategic approach to media into museum operations. From 2011 (when Arts Council, England took on responsibility for the funding and development of the majority of UK museums) museums have been encouraged to develop "digital strategies". The Arts Council states as part of its own ten-year plan that they intend "strengthening the distribution of excellent art through touring and digital platforms" (Arts Council England, 2013).

The National Museum Directors' Council, an association for major national and regional museums in the UK, publishes a number of documents looking at strategy for the sector or to act as advocacy in political circles. As early as 1999 they were proposing that museums utilize digital media to promote learning:

Now, information and communications technology offers entirely new opportunities for galleries and museums to contribute to the most important items on the national

agenda: to the creation of a learning society, to social inclusion, and to competitiveness. (NMDC, 1999)

With this report, they already were promoting digital media as an extension of the “mission” of museums in general; bringing “museum”, “learning” and “media” together as a means to produce a benefit to society as a whole.

Regional museum agencies are promoting similar strategic agendas and are encouraging development amongst their client group: CyMAL, the Welsh Government Museum, Archive and Library agency, states in A Museum Strategy for Wales:

The internet is an increasingly valuable tool for improving access to collections, sharing knowledge and promoting the work of museums[ ...] but quality and content vary dramatically [...] Technical difficulties, staff capacity and limited skills are all factors which hinder online development. However, museum governing bodies need to understand that remote access is essential in today’s world and seek to improve and develop their online presence. (CyMAL, 2011)

Conclusion:

## **Media as part of the museum mission**

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When examining the relationship between museums and media, there is a danger that we only see the latest technologies, practices and ideas, constraining our focus to just the dominant media forms of the present day. However, the

evidence presented shows vividly how museums have been engaged with media production from their beginning, and have continually demonstrated a willingness to engage with new technologies and new forms and formats of media. These examples highlight how this kind of innovation was often expensive, demanding of resources, and required the forging of partnerships with commercial and other providers. Creative strategies included using media to deepen access to collections, to extend the life of exhibition content and to impart the embodied knowledge of the museum. They also used media technologies to reach new and more distant audiences by going “beyond the walls” of the museum. These activities almost always increased risk for the institution, yet museums were prepared to shoulder this risk in order to further their fundamental reason for existence – their mission.

## Chapter 3

# Emergence and convergence: Innovation in media technology

**T**he previous chapter revealed that many museums have not been shy to adopt (or even participate in the development of) new media technologies of diverse forms and formats. In the examples given, in particular those spanning from the late 19th Century to the present day, museums have been quick to pursue the opportunities that new technologies could provide – the museum sector proving to be an “early adopter” of novel media forms and formats. Continuing this longer view, and reflecting more on this relationship with novelty and adoption, this chapter now explores how new media technologies emerge and how they come to the notice of the museum. Furthermore, the chapter also summarises academic theories that have been used to describe and analyse media innovation and proposes a theoretical framework for structuring the analysis of the rest of this thesis: namely, Actor-Network Theory.

## Mapping the product life cycle

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Business studies and economics have derived a multitude of models to help understand the processes behind the emergence and commercialisation of products. Media technology falls into the sphere of “product” and can be mapped by many of these models. By seeking to understand a “life” and “cycle”, models must describe activity (life) and time, along with some form of repetition (cycle).

One of the most established models is the linear model of innovation. There are many variants of the stages in this model, whose origins are unclear (Godin, 2005) but one of the simplest ways to articulate the process is through the following four steps:

### Research → Development → Production → Dissemination

Triggers for the process to begin, the research phase, are varied, but can include “invention” – perhaps precipitated by an opportunity seen in a material (for example light-sensitive chemicals used in the development of photography), or “innovation”, such as a refinement to an existing product inspired by a “gap” in the market (for example the importing of the CBS format *What in the World?* to the UK television market, to become *Animal Vegetable Mineral*). The research and development phases may be prolonged, spanning decades, or a matter of weeks to make the most of a fleeting opportunity.

By the mid 1960s, the burgeoning marketing services industry had a variety of models in use to describe products in terms of their “market” as well as their creation. As the American economist (and inventor of the term “Globalization”)

Theodore Levitt described in 1965, the market of a product has four clear stages:

**Stage 1. Market Development:** This is when a new product is first brought to market, before there is a proven demand for it, and often before it has been fully proved out technically in all respects. Sales are low and creep along slowly.

**Stage 2. Market Growth:** Demand begins to accelerate and the size of the total market expands rapidly. It might also be called the “Takeoff Stage.”

**Stage 3. Market Maturity:** Demand levels off and grows, for the most part, only at the replacement and new family-formation rate.

**Stage 4. Market Decline:** The product begins to lose consumer appeal and sales drift downward, such as when buggy whips lost out with the advent of automobiles and when silk lost out to nylon (Levitt, 1965).

By introducing “sales” as an axis, the process can be depicted as a graph (Figure 1). This plots the stages of the product’s life against its “appeal” and begins to resemble a wave.



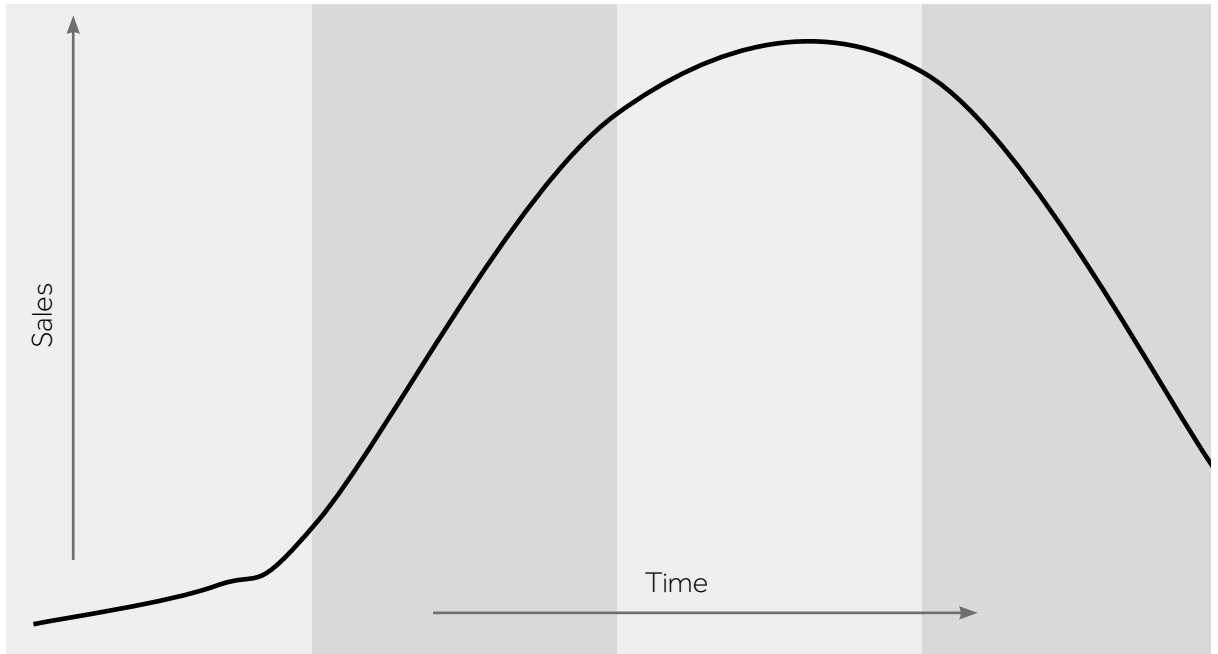


Figure 3.1: The product life cycle graph (after Levitt, 1965).

If we introduce a line to represent the point at which a profit is made on the product (Figure 3.2), we can clearly see two key moments for the manufacturer's actions – the point where the product becomes profitable and the point where it starts to make a loss.

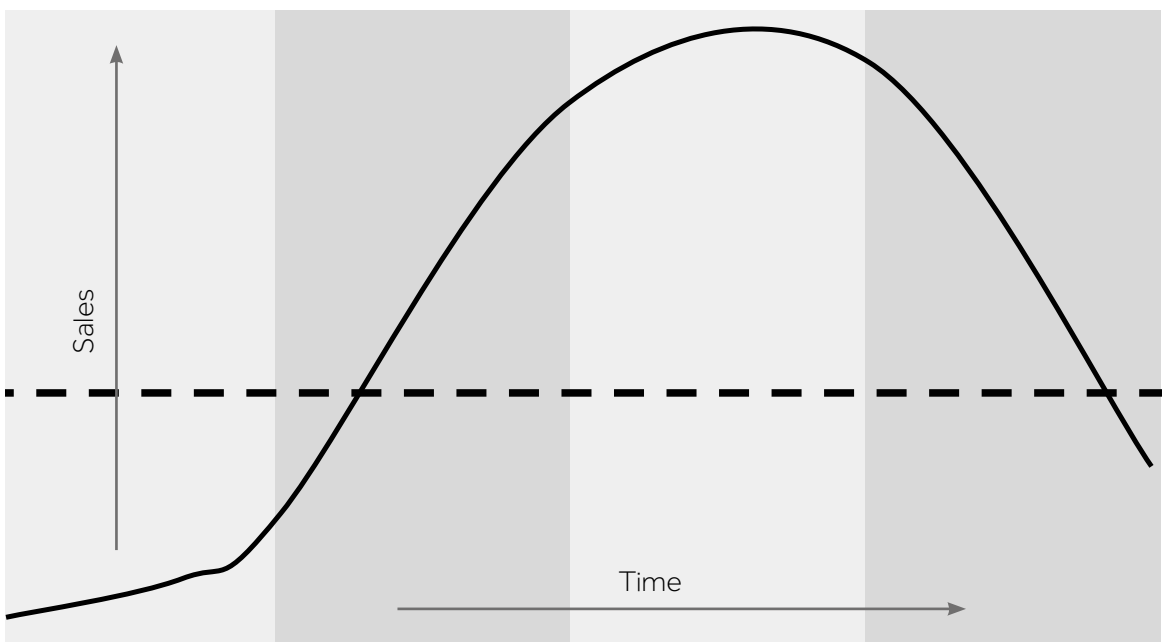


Figure 3.2: Profit "squeeze" in the product life cycle graph (after Levitt, 1965)

Research and development of the product all occur at a loss for the manufacturer, undertaken against anticipated future profits in the growth and maturity stages. Once the interest in the product wanes, during the decline phase, the cost of producing and marketing the product may render it no longer profitable. In this case, the product may be discontinued, or instead redeveloped or promoted in some way to prolong its time in the viable parts of the life cycle. Levitt (1965) described the extension of product life in this manner as “Sequential Actions” – the constant reinvention or refinement of a product in order to give it additional life in the market. He observed that strategies to extend life include “Frequent usage” (use more of the product) and “Varied usage” (use the existing product in different ways) as well as “New users” (reach a new audience).

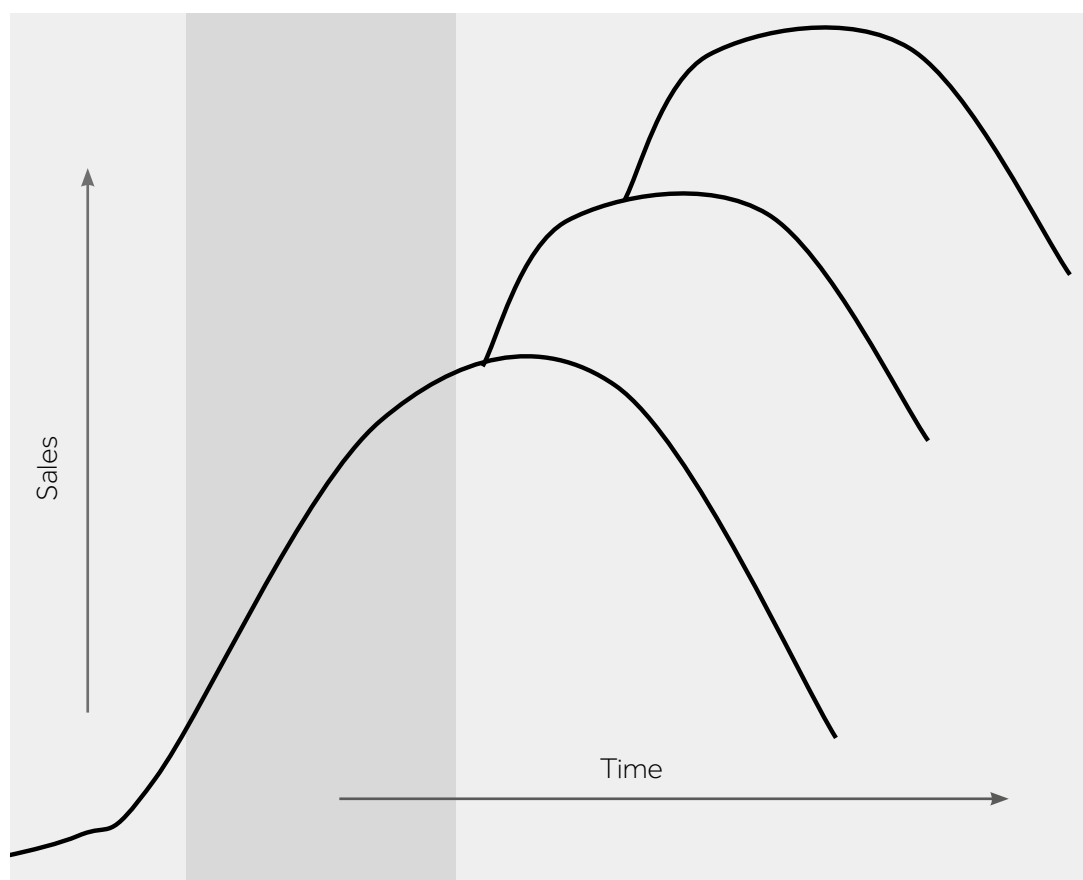


Figure 3.3: Extending the product life cycle with sequential actions (after Levitt, 1965)

Figure 3.3 shows how the strategic use of product refinement extends the “mature” period of the product and keeps income above expenditure, continuing to return a profit to the producers. In short, to keep a margin, the industry must continually innovate.

In the previous chapter, we considered the example of the audio guide and can now examine how it has performed in terms of the product life cycle. The audio guide started as an experiment, conducted by Philips and the Stedelijk Museum in Amsterdam. This early idea proved an interest, but perhaps not entirely the right technological approach. The museum was a crucible for the experiment, with Philips adapting radio technologies and case manufacturing to provide a means to broadcast deeper interpretation to gallery visitors. Demand was further gauged at the American Museum of Natural History, but here the innovation looked for a new use for the magnetic-tape reel to reel audio devices available in the 1950s. The new use for the old product caught on, and went into a growth phase, with audio guides spreading to cultural attractions around the world – creating an industry of specialist suppliers, many of whom manufactured audio devices based on hardware components produced by larger electronic entities. Between the 1950s and the present day, the audio guide market has matured and several sequential actions can be identified that have kept the products in the mature stage. These include many revisions and differing approaches to audio devices, and the addition of screens – so introducing non-audio media. Different methods to help the museum visitor identify objects with audio interpretation have emerged, ranging from the simple, such as numbered labels adjacent to displays, through to the technologically complex, for example near field communication tags that trigger events in audio guide software.

For every successful innovation that emerges and reaches market maturity, there are many that fail altogether or decline far more quickly than anticipated. Each decade, the amount of media technology and formats has proliferated – resulting in an increasingly crowded market where more and more products are competing for audience attention.

In 1995, Jackie Fenn, an analyst at the consultancy corporation Gartner, introduced the “Technology Hype Cycle” (Cleverism, 2015). The Hype Cycle resembles the Product Life Cycle in that it expresses time on the horizontal axis and depicts a product’s progress as a curved line on the chart, however the vertical axis represents “visibility” rather than sales. Visibility is defined as public attention in the form of press coverage, purchases, word of mouth and other spheres, including latterly social media.

Labelled with humorous phases, the Gartner chart resonated with technology speakers and bloggers and has found its way into presentations and posts the world over.

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Figure 3.4: The Gartner Hype Cycle. (Graph: Gartner, n.d)

The chart plots abstract values of “visibility” against maturity and indicates the phases through which a given technology will pass, these include “the peak of inflated expectations” (early on in the lifecycle) and the “trough of disillusionment” (that follows the peak of interest). After experiencing this slump, a technology may recover somewhat, as it matures and establishes utility amongst its audiences – this is called the “plateau of productivity”.

The chart’s popularity has made it a key public relations asset for Gartner, used as the basis for an annual round up of emerging technologies; plotting their position on the path, year by year. The 2017 edition, for example, places “Smart Dust” at the beginning of the journey, “Virtual assistants” at the peak of inflated expectations and “Augmented reality” in the trough of disillusionment. “Virtual reality” has escaped the trough and is now proceeding into the slope of enlightenment.

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Figure 3.5: Gartner Hype Cycle for Emerging Technologies (Graph: Gartner, 2017)

Museum professionals, just like any other consumer of media technology, are able to be swept up into the “hype” around a new products and seek to experiment with it as part of their work. Those that do, can be classed as “early adopters” – a class of technology consumers essential to the economics of media technology manufacturing. Without the early adopter, prepared to take a chance on a product, producers are far less likely to find the sales to fuel the growth stage of their market.

As an exercise, we can observe interest in a particular technology over time, for example, searches for the phrase “QR code” in Google – resulting in the following graph.

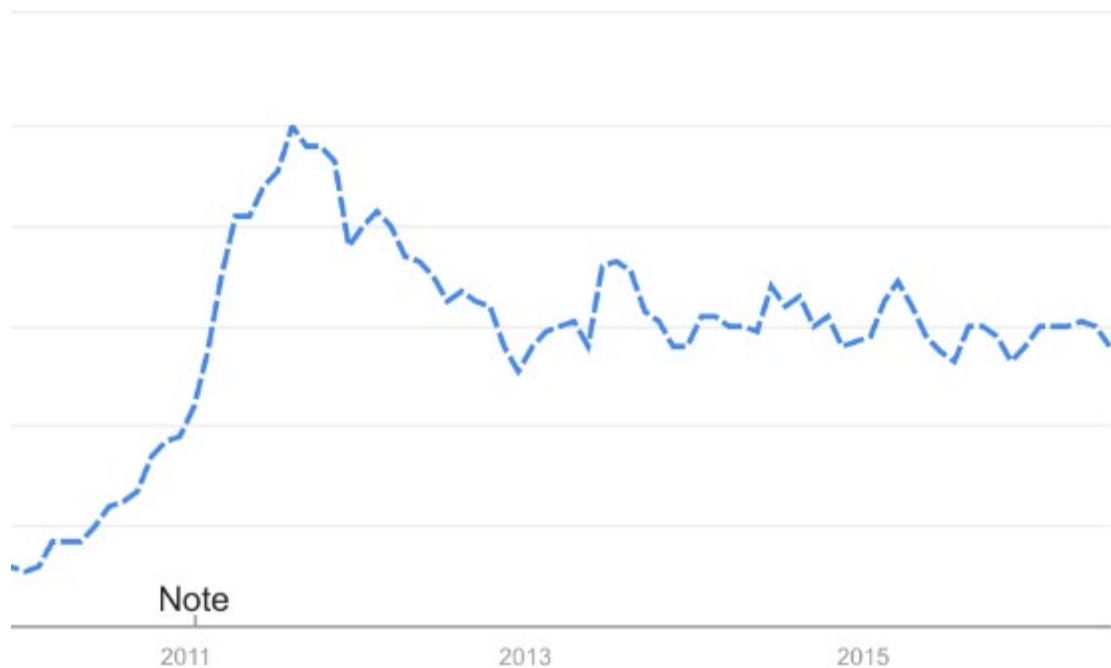


Figure 3.6: Searches for the term "QR code" since 2010. (Graph: Google Web trends 2016)

This follows the shape proposed by Gartner. Having established the pattern in the general (online) population, we can ask if museum professionals might conform to the hype cycle too. Using the Museum Computer Group (MCG) Jiscmail-hosted email discussion list a search for the same term (and plotting of the results in Excel) produces the following chart:

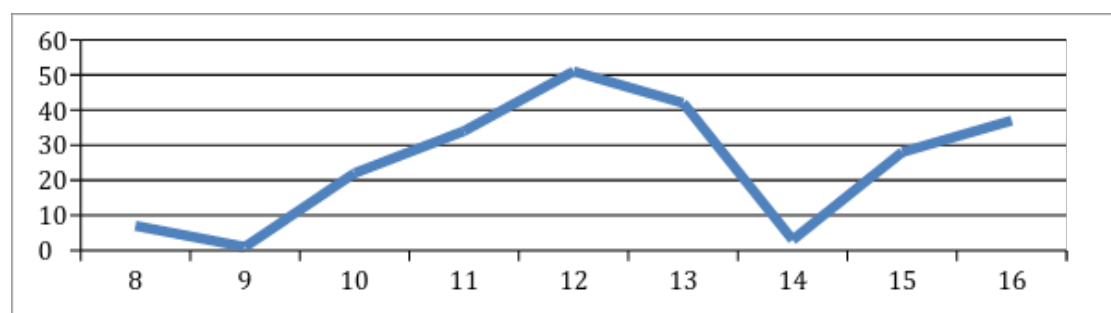


Figure 3.7: Museum Computer Group searches for QR Code (Graph: Author's own).

The chart indeed exhibits a similar pattern to the hype cycle, demonstrating that real world correlations with the Gartner theory can be observed.

The hype cycle begins with an “innovation trigger” – the starting point on the chart for a new media technology as it first becomes visible to practitioners or consumers. What is the nature of these triggers – how do new media technologies, forms and formats emerge?

## Convergence

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As the market produces new devices, new formats and new means of transmission, it typically builds upon the developments that went before. For example, television extended the technology pioneered in film and radio and used the transmission media (airwaves) of radio to carry broadcasts. More recently, the World Wide Web has become a medium able to present text, pages, images, video, audio and more, all brought together by the web browser and transmitted via a multitude of communications technologies (including fibre optic and copper cable networks, satellites and radio transmission technologies) known as the Internet.

Industrial processes have converged in the service of media technology – for example, photographic reproduction techniques and printing. For many centuries printing of books and other texts was achieved by the arrangement of moveable type letter blocks and woodcuts or engravings for illustrations. The advent of photography, and its core ability to capture and image in one chemical film and transfer it (at a different scale) to another chemical film, was co-opted into the service of printing onto paper. Printing plates were made by “shooting” a layout of “camera-ready” text and / or line art mounted onto a paste-up board and this image transferred to a chemical film on the surface of a metal plate. As the size of computer microchips became ever-smaller, it became expedient to design



the circuits and connections of a chip at a larger scale and reduce it to size using photographic techniques. The circuits themselves were also “printed” into position.

Nicholas Negroponte, later to head the One Laptop Per Child project, mapped out likely trends for convergence in the late 1970s while working at MIT Media Lab. He predicted the coming together of Broadcast and Motion Picture Industry, Print and Publishing Industry and Computer Industry, depicting them as a Venn diagram of overlapping circles (Appelgren, 2004). Negroponte went on to make a critical distinction between types of media as the information age gathered speed. He distinguished between shipping atoms versus shipping bits – essentially physical product distributed via logistical arrangements versus information transmitted via networked computers (Negroponte, 1995). He observed:

In the information and entertainment industries, bits and atoms often are confused. Is the publisher of a book in the information delivery business (bits) or in the manufacturing business (atoms)? The historical answer is both, but that will change rapidly as information appliances become more ubiquitous and user-friendly. Right now it is hard, but not impossible, to compete with the qualities of a printed book. [...] A book has a high-contrast display, is lightweight, easy to “thumb” through, and not very expensive. But getting it to you includes shipping and inventory. In the case of textbooks, 45 percent of the cost is inventory, shipping, and returns. Worse, a book can go out of print. Digital books never go out of print. They are always there. [...] Other media has even more immediate risk and opportunity. The first entertainment

atoms to be displaced and become bits will be those of videocassettes in the rental business, where consumers have the added inconvenience of having to return the atoms and being fined if they are forgotten under a couch (\$3 billion of the \$12 billion of the U.S. video rental business is said to be late fines). Other media will become digitally driven by the combined forces of convenience, economic imperative, and deregulation. And it will happen fast. (Negroponte, 1995)

The contemporary context of computerized communication technology brings an interesting division within the form of media into “hardware” and “software”. For example, the iPhone is a device that clearly embodies convergence of hardware (telephone and computer among other things), but is also the result of convergence of internet software (such as email, web browser, apps, or media players). The Internet is more than just web browsing of course, it is, in fact a network system that has pervaded many aspects of life. The Internet depends on a series of “protocols” to integrate hardware (for instance, servers, routing switches and fibre optic cables) and software together so they can respond to input, communicate information and perform functionality.

As Lev Manovich (2008) points out in “Software Takes Command”, the underlying software that runs the multitude of systems, processes and facilities that make up the Internet had, up until that point, largely gone without study or description. Manovich states that software:

...is what organizes the Internet, routing email messages, delivering Web pages from a server, switching network

traffic, assigning IP addresses, and rendering Web pages in a browser. The school and the hospital, the military base and the scientific laboratory, the airport and the city – all social, economic, and cultural systems of modern society – run on software. Software is the invisible glue that ties it all together.

(Manovich, 2008)

As the functions, interactions, processes and systems of society become computerised, and then part of the Internet, they all become part of a convergent logic of software. The fundamental control statements (if/then/else) within software is always present, and many elements of human-computer interface have become conventional and appear in almost every application (including standard navigation controls and input metaphors such as the checkbox button). The observation of emerging conventions that bring disparate content and services together in a convergent manner, ultimately supports Manovich's argument that the form of the software, and by extension new media, constrains and shapes the activity that takes place within it (Manovich, 2001). He also highlights the point of convergence represented by the computing device's graphical user interface (GUI):

The interface comes to play a crucial role in information society yet in a another way. In this society, not only work and leisure activities increasingly involve computer use, but they also converge around the same interfaces. Both “work” applications (word processors, spreadsheet programs, database programs) and “leisure” applications (computer games, informational DVD) use the same tools and metaphors of GUI. The best example of this convergence

is a Web browser employed both in the office and at home, both for work and for play. In this respect information society is quite different from industrial society, with its clear separation between the field of work and the field of leisure. (Manovich, 2001)

An important focus of software convergence centres around the hypertext transfer protocol (HTTP), HTML, XML, CSS and Javascript “languages” that underlie web technology. HTTP and HTML are the fundamental building blocks of the World Wide Web, having been developed at the outset of the 1990s. Hypertext Transfer Protocol guides the requesting for and responding with content between web servers and web browsers, while HTML (HyperText Markup Language) contains and structures the content of web pages (Berners-Lee, 1989).

With the success of the web, a huge “community” of practitioners (both professional and casual) has grown up with the ability to create web sites, services and facilities, making use of the core technologies of (X)HTML, CSS and Javascript. The availability of such a large pool of skills has created an opportunity (and a demand) to re-use the same techniques for other applications, beyond the creation of the web page. A notable mass-market format that has adopted web technologies outside of the browser is the ebook. At its heart is the ePub file format, that structures the chapters and pages of the book in HTML, using CSS for visual design. Most ebook readers (for example, Adobe Digital Editions, Kindle, Apple iBooks) support the ePub format, or one of its variants (including .mobi and .azw – formats that add rights management and device-specific functionality) and usually support some Javascript interaction.

In fact, Javascript is possibly the widest adopted web-originated technology of all, having its easy to learn programming style appropriated for all sorts of non-web applications. Javascript can be used to customise the behaviour of design programs Photoshop, Illustrator and Indesign, it can programme 3D games engines such as Unity, produce Apple and Android Apps (via React or Appcelerator) and even control the behaviour of remote controls for TVs, set-top boxes and Blu-Ray players (Philips, n.d).

## Proliferation

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Having seen how convergence can drive media technology innovation, it is natural to wonder why there are not fewer devices and applications as time goes on, rather than the ever-increasing number that we can observe on the market. Robert K Logan describes how consumer demand for provision of content and functionality is met by many cheap to produce devices – with different configurations that favour narrower sets of tasks or content engagement than the device's platform is actually capable of. For example, a mobile “smartphone” is capable of almost all the functionality of a “laptop” but is optimized for portability and voice calls, but the hardware and software that drive both devices are extremely similar from device to device (Logan, 2010). The technology has converged, but the devices have proliferated to meet every market opportunity; just as vast numbers of living creatures share the same fundamental biology, but have proliferated to fill every ecological niche.

Convergence does not lead to any foregone conclusion or qualitative outcome. In the case of technology, there is certainly no guarantee that innovation through convergence will produce a perfected product. As Jenkins states:

“[F]or the foreseeable future, convergence will be a kind of kludge – a jerry-rigged relationship between different media technologies – rather than a fully integrated system.”

Convergence takes place, but the results can be variable; as with all product development some initiatives fail. That failure may manifest as a lack of sales of a piece of hardware or software, or alternatively the “locking in” of a compromised function or facility within a product that end users just have to “live with” (whereas they might be better served by using two or more different pre converged products). (Jenkins, 2004)

## **Innovation in production**

When a new “form” (e.g. the novel) or a new medium (e.g. photography) emerges, then a new specialist profession emerges to exploit that form or medium. In many cases, the profession is backed with a supply chain of diverse providers. For example, publishing has involved authors, editors, publishing houses, typesetters, graphic designers, compositors, proofreaders, plate makers, printers, delivery networks, book shops, marketing, critics and trade bodies. As technological development evolved, new tools emerged and roles amalgamated into what became known as “desktop publishing” (DTP), so there are now fewer points in the supply chain. For example, the author writes their text into a word processing package, the editor makes amends directly on the same text (and sometimes proofs it too), the designer typesets this using DTP software and the printer runs that composition directly to the press without needing to create a printing plate first. Roles such as the compositor and typesetter have disappeared, while specialised roles such as “digital printer” are now advertised.

New enterprises and professions continually spring up to supply new technologies as they emerge; for example, the role of the motion graphics designer or web developer are new professional descriptions that followed new developments in media production. Eventually these skills may converge together as tools and practices evolve, for example many digital agencies advertise jobs for “Full Stack Developers” – a role that spans graphic design, user experience design, “back end” web server programming and “front end” page coding – roles that are otherwise offered as individual jobs. This indicates a cyclical system of emergence and convergence.

Another area of development in production is a breakdown in the distinction between the “amateur” and “professional”. Manovich points out that the cost of production equipment for media has dropped immensely as it became computer software-based rather than specialist physical equipment (Manovich, 2001). This reduction of financial barriers (even as far as to become completely free with some open source or web service-based software) has allowed amateur media production to become increasingly relevant, a topic explored by Henry Jenkins (2006) in *Convergence Culture*. Eventually, the term “amateur” has become referred to as “user-generated” or “crowd sourced” and seen as a desirable contribution to the media landscape by institutions and professionals, although legal concepts of intellectual property can make the relationship uneasy.

Not all commentators see the widespread adoption of amateur media production as a “good thing”; a minority of voices are oppositional. In 2007, Andrew Keen published *The Cult of the Amateur: How Today’s Internet Is Killing Our Culture* where he argues against the prevailing mood of free online services, content, user-generated

content and the downgrading of professional authorship as a factor of perceived value and trust in content. The book provoked instant repudiation from many new media practitioners and theorists such as Lawrence Lessig and Tim O'Reilly. Lessig went as far as to speculate that:

Keen is our generation's greatest self-parodist. His book is not a criticism of the Internet ... the real argument of Keen's book is that traditional media and publishing is just as bad as the worst of the Internet. Here's a book -- Keen's -- that has passed through all the rigor of modern American publishing, yet which is perhaps as reliable as your average blog post (Lessig, 2007).

An important qualification in the terms “amateur” and “professional”, when it comes to media production in museums, is in regard to the adoption of digital media technologies by museum staff. Unless the museum is large enough or has project funding to do so, they are unlikely to hire professional creative personnel to undertake all media projects. Instead, some museum practitioners feel confident enough to make use of digital media through the same platforms, services and software packages utilised by other “amateurs” on the “open web”. In the museum and in heritage, the worker is a “professional”, bringing their skills and knowledge, education and experience to bear on a topic or a task, but in their use of digital media, they are an amateur, perhaps new to the tools, without formal training in the medium that they seek to exploit.



## **New forms in new media**

Computerised media technology, and in particular the Internet, has allowed for a “platform” that can consume nearly the full gamut of media, past, present and future (in a manner that explicitly fulfils McLuhan’s position that all media contains all media that went before it [McLuhan, 1964]). Chronologically, text, in the form of “pages”, was the first to be replicated and this was followed by support for photography, audio and video. What made new media “new” was the facility for hyperlinking pages and other resources together, which was developed further to allow forms, buttons and switches, connected to programming logic that the end user could operate to “interact” with the content or service they were accessing (Logan, 2010). These interaction possibilities created by the web has allowed sites to emerge that are denoted as a new form: “social media” – although they are mechanically the same as most websites, they have been recognised as a new media form largely because of the degree of interactivity between subscribers and their widespread adoption as spaces of communication by the public.

Innovation of new forms and formats within new media are both divergent and convergent. For example, for much of its history the social network site Facebook operated as a single website, but in 2010 it began to offer facilities for third party website owners so their visitors can read and add comments, “like” pages (a fundamental Facebook interaction) and submit other user generated content via Facebook functionality, but without requiring the user to visit the site at all (Facebook Developers, n.d.). By offering their services out in the mass of websites and web services, Facebook has made a serious attempt to co-opt many points of interaction into one “converged” social media “clearing house” of communication transactions between web users and website owners. Facebook uses audience members as

the currency of exchange – Facebook exchanges the potential to access to some of its internal audience for the right to re-use the contributed content and the relationships of the website owner’s audience (and thereby draw in those audience members into Facebook).

Social media sites offer seemingly unlimited space for user-led interaction, content generation, information exchange and other forms of engagement. But as Felix Stadler (2012) observes, the “front end” and the “back end” of the web differ greatly in mode. The terms front end and back end refer to common web developer/programmer parlance that differentiates between the user interface presented to the user and that used by the site programmers and administrators (including control panels and text-only “command line” interfaces). Stadler points out that the front end of social media sites encourage massive participation, offering a variety of tools, audiences and means of dissemination to the public – a “semiotic democracy” of cultural commons production (Stark, 2006). However, Stadler considers the actual provision of social media as being akin to a Situationist-style Spectacle (“Spectacle 2.0” in Stadler’s words) – the promise is of complete liberty and unbounded creativity, the reality is, in fact, highly controlled and organised in the interests of the “owners” and the power structures within which they reside. He goes on to describe the twin dimensions of the social web to be “characterized by two contradictory dynamics. One is decentralized, ad-hoc, cheap, easy-to-use, community-oriented, and transparent. The other is centralized, based on long-term planning, very expensive, difficult-to-run, corporate, and opaque” (Stadler, 2012).

Social media platform providers, in particular Facebook and Twitter, have pioneered the use of, and have given outside developers access to, the “social graph”. In the usage of the term by Facebook, Graph refers to the mathematical concept of

mapping a network of nodes (or vertices) linked together by “edges”. The social graph describes the people within a social network (as vertices) and how they relate to others within that network (the edges). The network can be expanded to encompass other elements – for example, the media elements contributed by network members or things they have “liked”.

The social graph is an expression of the fundamental structure of the relationship data within (and beyond) the social network platforms. Before anything else can happen within an interaction between the platform and a user (for example: display a gallery, add a status update, send a message, view an advert) the social graph has been referenced by the network’s software. The “back end” of Facebook (or Twitter, or any other provider) stores and references a vast network of relationships and “brokers” interaction between small subsets of the human agents in that network.

## **Innovation of hardware form**

As we saw at the beginning of this chapter, manufacturers of media hardware follow a product development cycle just as with any other industry. Equally successful innovation is followed by imitation, which is in itself a driver of further innovation of hardware forms in order to maintain a market. Innovation often centres around a particular set of “off the shelf” components, themselves products of prior innovation. For example, during the first two decades of the 21st century, there has been a period of cyclical innovation centred upon the touch screen monitor. Touch screen displays have been available for a long time, but the release by Apple of the iPhone in 2007, followed by the iPad in 2010, placed touch-screen interaction at the heart of the consumer experience, backed with the marketing

ability to popularise the form with a huge segment of the consumer population. In short order, other manufacturers were including touch screen panels in their products – mobile phones, tablets (a market largely generated by the iPad release), still and video cameras and desktop computers were using the same or similar hardware components. Because the screen is simultaneously the input and the output interface of the device (especially with mobile phones and tablets), the form of the hardware follows its function and effectively becomes a single rectangular screen. Other form factors such as keyboards, casing, buttons etc. have been minimised. The signifiers of brand and variety of product have become very subtle; the radius of a rounded corner, the marque of the manufacturer (mounted in a particular position), the surface treatment of the casing. The “gravitational pull” of this trend is very strong, even a highly idealistic product design project such as One Laptop Per Child shifted its approach to a tablet form in response to cost pressures, despite deliberately starting off with very distinct computer and user-interface forms.

Coupled with the fact that phone and tablet operating systems are highly converged, it could be argued that the mobile device is a centre of convergence in both technological and social terms. The touch screen experience for the museum visitor can be almost continuous – the visitor initially researches the museum and its practical details via phone or tablet, then on arrival at the institution, he or she explores the exhibits further via in-gallery touch screen interactives, perhaps also photographing an object or two on their phone or camera, and finally sharing their experience to social media via a tablet or phone-based app. As the introduction of Museum Practice pointed out in a mobile-focused issue:

As a mobile user I am presented with new services on a weekly basis, which all contribute to keeping me mobile and make booting up the desktop even less desirable,” says Dave Gunn, computer associate at the Fitzwilliam Museum in Cambridge. “About 90% of my personal web time is now mobile – so if your content isn’t there, I won’t see it. (Museum Practice, 2012)

Other core hardware components have been at the heart of convergence; the hard drive, Flash memory, Advanced Reduced Instruction Set Computer Machine (ARM) processor chips and before that cathode ray tubes, transistors, photographic reproduction and so on. The ability to mass manufacture at relatively low-cost, and with a high degree of predictability in the quality and behaviour of the component, frees the product designer from having to devise the entirety of the product and instead allows production effort to be directed at innovation, targeting a market niche or challenging an existing product.

## **Media studies and theories of innovation**

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The pioneer of the field of media studies, Marshall McLuhan, described convergent innovation of media technologies, stating “The hybrid or the meeting of two media is a moment of truth and revelation from which a new form is born” (McLuhan, 1964). His Laws of Media mapped out four categories of media attributes (described as a “Tetrad”) that could be used to examine the nature of a new medium in the light of what had preceded it. The categories are Enhancement (what is amplified or intensified by the medium), Obsolescence (what is rendered less useful by the

new medium), Retrieval (what is recovered by the new medium that was previously lost) and Reversal (what the medium does when pushed to its limits) (McLuhan, 1988). McLuhan's laws provide a "prism" through which to split convergence into its component parts for analysis, as well as pointers to the new and possibly future forms that this form of innovation may lead to.

The study of the complex interrelationships and interactions found in media gave rise to the concept of "media ecology"; applying an analogy of the diversity, interdependence and systems found in the natural environment to the human-constructed mesh of producers, technologies, consumers and other factors that make up the world of media (Postman 2000). Media ecology as a conceptual framework is commonly attributed to McLuhan, Lewis Mumford, Harold Innis and Neil Postman (Walczyk & Kovacev, 2009), but there has been a split in the understanding of the phrase into North American and European schools.

Semiotics, the study of signs, was initially proposed by linguist Ferdinand de Saussure early in the 20th Century. Semiotics has grown to be a vast field of study with major contributions by Roland Barthes, Christian Metz, Umberto Eco, Claude Lévi-Strauss and Julia Kristeva (Chandler, 2001). Semiotics has been enthusiastically taken up as a tool for the analysis of media, describing all forms of media content (such as film, as well as the more obvious literature) as "texts". As a field, semiotics is so broad that it would be impossible to sum it up effectively here, but there are a few central concepts that are potentially useful to use when approaching the topic of convergence. The first is "intertextuality" – the way in which one text must "borrow" from the forms and content of other texts that went before it. The borrowings may be in the form of structure, genre or many other factors. The degree to which one text has to borrow from others is so great that

semioticians assert that authorship is no longer clear, the boundary between the ostensible “creator” of the text and the intertextual “sources” has become blurred beyond recognition (Barthes 1974, Chandler 1995). Secondly “codes” – codes are the systems and procedures of conventions that related signifiers to the signified. Different forms of media have different codes or subcodes that make sense to their “interpretative community” (people who share the same knowledge of a code or codes). For example, “Filmic codes” are the genres, editing styles, portrayal of the passage of time, narrative conventions and so on that allow cinema audiences to successfully interpret the films they consume. (Chandler, 2001). Thirdly “encoding and decoding” – Stuart Hall proposed (1980) a model of communication within the semiotic field that described the processes of production, circulation and reception of media messages and provides mechanisms for understanding the motivations and assumptions that guide the exchange of meaning between “creator”, production “professionals” and the “audience”. The concept of codes, encoding and decoding lead to “transcoding”; the conversion of one set of codes into another set, attendant with their own conventions of encoding and decoding.

Media theories naturally come with caveats and pitfalls, in particular discussion of media technology, particularly in the context of innovation, is prone to “technological determinism”; the assertion that technological development “causes” change within society and when viewed historically, inevitably leads to the events or changes that unfolded. Thus, the coming of the printing press to Europe inevitably leads to the Reformation or the development of telecommunications technologies to economic globalization. McLuhan is described as a technological determinist, with his concepts such as “print created individualism, privacy, specialization, detachment, mass production, nationalism, militarism, the dissociation of sensibility (a split between head and heart), and so on” (Chandler, 2001). Innis in *The Bias of*

*Communication* (1951) postulated that the communications media of different societies (Rome, Egypt, 18th Century England, 20th Century USA) carried a “bias” that influenced concepts of time and space and thus the organisation and assumptions of that society. When describing convergence, it is easy to slip into forms of language that might indicate a deterministic approach. The word convergence itself signifies coming together of two or more elements over time. A description of the agents of convergence can imply an inevitability or solitude of the effects of the agents, without taking into account other structures, processes or other factors that may be at play. Daniel Chandler, writing in *Computer-Mediated Communication Magazine*, February 1996, observes that although a “hard determinist” stance is compromised, a moderately deterministic approach could be useful:

There is some truth in a more moderate stance, at least on the level of the regular use of particular kinds of tools by individuals. In my own view, it is a mistake to regard any tools as ‘general-purpose’ or ‘content-free’: all tools and media – from language to the computer – embody basic biases towards one kind of use or mode of experience rather than another ... My argument is that all media give shape to experience, and they do so in part through their selectivity. [...] The selectivity of a medium arises from the way in which it formalizes phenomena within its own constraints. Any medium facilitates, emphasizes, intensifies, amplifies, enhances or extends certain kinds of use or experience whilst inhibiting, restricting or reducing other kinds. Of course, our use of any medium for a particular task may have advantages over ‘the alternatives’ (such as ‘saving’ time or labour), but



use always involves a ‘cost’. There are losses as well as gains. A medium closes some doors as well as opening others, excludes as well as includes, distorts as well as clarifies, conceals as well as reveals, denies as well as affirms, destroys as well as creates. The selectivity of media tends to suggest that some aspects of experience are important or relevant and that others are unimportant or irrelevant. Particular realities are thus made more or less accessible – more or less ‘real’ – by different processes of mediation. (Chandler, 1995)

Emerging from Science Studies, a theoretical framework that explicitly describes the sociological processes within technological innovation is Actor-Network Theory (ANT). Initially developed by Bruno Latour and Michel Callon in the 1980s, ANT goes some way to incorporate theories and themes from semiotics, post-modernism, structuralism, Bourdieuvian cultural production and post-structuralism into a form of “unified field theory” (Stalder, 1997). Actor-Network Theory describes the processes of scientific and technological innovation in terms of networks of relationships of agents (or “actants”) that interact both materially and semiotically to produce a resource, entity or concept.

One of the startling concepts of ANT is that actors may not be human, they can also be an animal or other biological entity or even an artifact, such as a machine. There is no need for volition or cognitive ability to be an actor in a network. Actors are “entities that do things” (Latour, 1992). ANT describes the flux of an actor-network over time, covering emergence, development and stabilization. Stalder (1997) introduces emergence by stating that “Networks are put into place by actors. However, since there is no actor without a network, new networks emerge out

of already existing ones.” Having emerged, the network develops in two possible different directions, towards convergence or towards divergence of its actors. Actors interact within their network through a series of negotiations or “translations”. It is tempting to draw parallels between the mechanics of the Actor-Network and the mechanics of new media transmission. Web browsers negotiate connections with web servers and are served encoded information that must be translated, or decoded, before the human agent can receive the “token” or content. However, Latour warns against confusion between ANT and physical networks, he seeks to clarify the definition by stating:

The first mistake would be to give it a common technical meaning in the sense of a sewage, or train, or subway, or telephone ‘network’. Recent technologies have often the character of a network, that is, of exclusively related yet very distant element with the circulation between nodes being made compulsory through a set of rigorous paths giving to a few nodes a strategic character. Nothing is more intensely connected, more distant, more compulsory and more strategically organized than a computer network. Such is not however the basic metaphor of an actor-network. A technical network in the engineer’s sense is only one of the possible final and stabilized state of an actor-network. An actor-network may lack all the characteristics of a technical network – it may be local, it may have no compulsory paths, no strategically positioned nodes. (Latour, 1996)

In the actor-network of a website, for example, the network incorporates but is not confined to the technical infrastructure that carries the aforementioned negotiations and encoding/decoding. Those elements are part of a wider network of relationships; the content creators, site “owners”, audience members, immediate power and other social structures that those actors are part of. Not only that but the telecom companies, hardware manufacturers, software producers and their equipment all take part in the network and all act upon and are acted upon by each other in some way.

Actors are in a many-to-many relationship within networks, so to practically describe the dynamics of a system is made easier by the concept of “black boxes”. Essentially, “A black box contains that which no longer needs to be considered, those things whose contents have become a matter of indifference” (Callon, Latour, 1981). Black boxes are networks that are stable enough to not be taken into account, other than in the way they interact with other actors in the system (Stalder, 1997). For example, the sensory and other biological processes within human beings that allow them to interact with media are certainly networks of actors (brain, nerves, hormones, blood and lymphatic systems) but to incorporate that detail into a description would render it unnecessarily complex. It is enough to know that a person perceives the media received or requested.

Actor-Network Theory has the capacity to map a production process in detail, and to develop an understanding of the influences upon the outcomes, and indeed sustainment, of a media project, without necessarily becoming deterministic. In the following chapter, we will explore ANT more deeply and apply its analysis to an extant project as a pilot study.

Conclusion:

## **Media innovation – cycles to networks**

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This chapter began with a model of innovation, the product life cycle, complemented by a model of how those innovations are received by the market over time – the Gartner Hype Cycle. The discussion of QR Codes by museums was used as an example to demonstrate how museum interest in new media technologies conforms to the same pattern modelled by the hype cycle. Triggers for innovation were then considered, including the convergence of previous forms of media, the emergence of products to fill “ecological” niches, and the shifts in focus from hardware to software and professional to amateur. Academic theories from the field were summarised, including McLuhan’s tetrad of media innovation, and finally a framework that maps technological innovation was proposed – Actor-Network Theory (ANT). Although Actor-Network Theory emerged from Science Studies, it is flexible enough to be adapted to other socio-technical fields, and in this study, ANT offers a means to explore the creative and productive processes behind a media project, not just the visible outputs of the project. In the next chapter, we will see ANT being explored in more detail, and applied to a pilot study, the British Museum’s *A History of the World in 100 Objects*.

## Chapter 4

# Actor-Network Theory: A history of the world in actor-networks

**H**aving introduced Actor-Network Theory (ANT) in Chapter 2, this chapter will explore some of the concepts from the theoretical framework in more detail. ANT's concepts provide a means to explore the social at the same time as the technical, the material at the same time as the semiotic – thereby giving us a set of tools that are highly appropriate for the study of media production, an activity that requires the organisation of people (the social), the use of machines and infrastructure (the technical), the exploitation of resources (the material) and the creation and conveyance of meaning (the semiotic).

As a practical, pilot use of the framework, this chapter also sees the application of ANT methodologies to an analysis of *A History of the World in 100 Objects*, the landmark transmedia project produced by the British Museum, the BBC and the publisher Allen Lane in 2010.

## Actor-Network Theory: an overview

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Actor-Network Theory (ANT) first emerged in in the early 1980s from the work of Bruno Latour, Michel Callon and John Law. This authorial group are often reticent

to present ANT as an established theory, in a celebrated statement Latour refuted the name itself: “there are four things that do not work with actor-network theory; the word actor, the word network, the word theory and the hyphen!” (Latour, 1999), a position that he later refuted in its entirety in a footnote in *Reassembling the Social: An Introduction to Actor-Network Theory*: “I will now defend all of [the terms], including the hyphen!” (Latour, 2005).

Despite this reluctance on the part of its principal writers, ANT has escaped its original area of application – the sociology of science and technology – and has been enthusiastically picked up by researchers in many other disciplines, notably development studies, ICT, geography, management and organization studies, economics, anthropology and philosophy (Cressman, 2009). However, it is only in the second decade of the 21st century that we have seen consistent application of ANT in the field of media studies, indicated by the release of *Applying the Actor-Network Theory in Media Studies* (Spöhrer *et al*, 2016), a volume collecting essays on the topic.

ANT began life with a challenge to received perceptions of science and scientific “fact”.

With others in the sociology of science, they argued that knowledge is a social product rather than something generated through the operation of a privileged scientific method. And, in particular, they argued that “knowledge” (but they generalise from knowledge to agents, social institutions, machines and organisations) may be seen as a product or an effect of a network of heterogeneous materials. (Law, 1992)

The other tenet of the theory that attracts attention in almost any discussion of ANT is its inclusion of non-human actors in its descriptions of networks. Law introduces the concept with:

...the actor-network approach describes the enactment of materially and discursively heterogeneous relations that produce and reshuffle all kinds of actors including objects, subjects, human beings, machines, animals, ‘nature’, ideas, organisations, inequalities, scale and sizes, and geographical arrangements. (Law, 2007)

## **Antecedents**

Actor-Network Theory is epistemological in the empirical tradition and an inheritor of post-structural concepts and semiotics (Law, 1992). It is interdisciplinary, ontological, and acknowledges two theories as strong influences: Rhizome theory and Ethnomethodology (Latour, 2005).

The Rhizome theory of Gilles Deleuze and Felix Guattari (Deleuze, 1993) is often cited in ANT texts, including those by Latour (2005). They opposed the “tree” structure of relationships by which a large amount of conceptual models are characterized (from species of animal to the HTML code of web pages) and postulated a “Rhizomic” alternative:

...any point of a rhizome can be connected to anything other, and must be. This is very different from the tree or

root, which plots a point, fixes an order. [...] semiotic chains of every nature are connected to very diverse modes of coding (biological, political, economic, etc.) that bring into play not only different regimes of signs but also states of things of differing status. (Deleuze, 1993)

ANT is also described as using ethnomethodological techniques. The Dictionary of Sociology explains ethnomethodology as:

Social life, and the apparently stable phenomena and relationships in which it exists, are seen by ethnomethodologists as a constant achievement through the use of language. It is something that together we create and recreate continuously. This is indeed the rationale behind the name: 'ology' (the study of) 'ethno' (people's) 'method' (methods) of creating social order. The emphasis is on doing things: we 'do' friendship, being a sociologist, walking along the street, and everything else. At one time it was common to distinguish linguistic from situational ethnomethodology, but this is no more than a difference in emphasis, the basis for both tendencies resting firmly in the use of language. (Scott & Marshall, 2012)

Latour offers a nod to ethnomethodology when he proposes: "In many ways, ANT is simply an attempt to allow the members of contemporary society to have as much leeway in defining themselves as that offered by ethnographers" (Latour, 2005).



## Definition

A neat definition of Actor-Network Theory is that it is “a recognition that actors build networks combining technical and social elements and that the elements of these networks, including those entrepreneurs who have engineered the network, are, at the same time, both constituted and shaped within those networks. (Stanforth, 2006)

Commentators often assert that the practice is material and semiotic. Law again:

Actor-network theory is a disparate family of material-semiotic tools, sensibilities and methods of analysis that treat everything in the social and natural worlds as a continuously generated effect of the webs of relations within which they are located. It assumes that nothing has reality or form outside the enactment of those relations. Its studies explore and characterise the webs and the practices that carry them. (Law, 2007)

ANT is an empirical technique, which examines the detail of the material aspects of networks of people and things. Law (2007) takes the example of Portuguese colonialism – observing: “the Portuguese generated a network that allowed them to control half the world. [...] ships, sails, mariners, navigators, stores, spices, winds, currents, astrolabes, stars, guns, ephemerides, gifts, merchants’ drafts were all translated into a web. That web [...] was to hold together for 150 years” but that “Sociologists sometimes experience this as a diversion from serious social analysis.

[...] Why doesn't it look at what is important? The response to this is the counter-complaint that many sociologies have little sense of how the social is done or holds together. They ignore the material practices that generate the social: ships, sailors, currents. They simply move too quickly to a non-material version of the social.”

It also examines the semiotic, because it maps the exchange of meaning or concepts in the network relationships as well. Latour states: “An actor in ANT is a semiotic definition – an actant – that is something that acts or to which activity is granted by another...an actant can literally be anything provided it is granted to be the source of action” (Latour 1996). Material entities achieve significance by their relationships with other entities, so this pairing is termed as “material-semiotic”.

## **Concepts**

Contributors to Actor-Network Theory have established a vocabulary to set out concepts, processes and relationships. As (Cressman, 2009) asserts, “ANT contains within it concepts that, when abstracted from the multiple trajectories of ANT, can be used as tools to better reveal the complexities of our sociotechnical world”, despite the fact that ANT literature tends to “speak of ANT in the abstract, divorced from particular case studies. This is a serious problem for a theory that is best understood as something that is performed rather than something that is summarized”. The potential applicant of ANT may struggle further with the common undermining of conventional understandings of terms followed by their rehabilitation (see Latour's comments on Actor-Network Theory in the opening paragraph above).

Actor-Network Theory has been the target of energetic criticism (Ritzer, 2004), especially in regard to its ontological approach (Cresswell, Worth, & Sheikh, 2010) and

has shifted position somewhat in response (Law, 1998). However, it has become established as an interpretative lens for a wide range of fields and remains a “view of the world as made up of networks in which objects can have an important role in shaping social relations” (Cresswell, Worth, & Sheikh, 2010).

## **Translation**

ANT has been separately subtitled “the sociology of translation” by Callon, Law and Latour; all three set translation as a central tenet. Law states:

This, then, is the core of the actor-network approach:  
a concern with how actors and organisations mobilise,  
juxtapose and hold together the bits and pieces out of which  
they are composed; how they are sometimes able to prevent  
those bits and pieces from following their own inclinations  
and making off; and how they manage, as a result, to conceal  
for a time the process of translation itself and so turn a  
network from a heterogeneous set of bits and pieces each  
with its own inclinations, into something that passes as a  
punctualised actor. (Law, 1992)

## **Actor / Actant**

The term “actor” is widely used in sociology and other disciplines and the Actor-Network theorists have adopted its usage as a term for their descriptions, but it is interchangeable with the term “actant” which is sometimes deployed to express that the actor could be human or non-human. The word itself was borrowed from semiotics, having been coined by the semiotician Algirdas Greimas in the sixties (Greimas, 1966), but conceptually modified by Latour:

“An “actor” in AT is a semiotic definition -an actant-, that is, something that acts or to which activity is granted by others. It implies no special motivation of human individual actors, nor of humans in general. An actant can literally be anything provided it is granted to be the source of an action.” (Latour, 1996)

## **Black Boxes**

The term black box refers to a network that is sufficiently self-evident, self sufficient or stable as to be treated by other networks or actants as something that can be taken for granted. Processes, concepts, beliefs and activities, actions, and organizations become normative and their processes become invisible (Rhodes, 2009).

Black boxes are often prised apart during an ANT study, the researcher follows the actors within the “boundaries” of the box to reveal hidden features. Other times, ANT allows for a network or segment of network to become a black box, leading on to the next moment, punctualization.

## **Punctualization**

We can ‘punctualize’ a stable network and so consider it in the form of a single actor. Whenever possible it is useful to simplify, to an actor, a network that acts as a ‘single block’ to make it easier to deal with. An actor then “... can be compared to a black-box that contains a network of black-boxes that depend on one another both for their proper functioning and for the proper functioning of the network” (Law 1992).

## **Translator/macro-actor**

As a network is formed, certain actors become important as representatives of the

entities they constitute, such as organisations, processes, technologies or informal groups of people. They postulate the interests and demands of their entities and contribute to the definition of roles and scenarios in the network (Rhodes, 2009). These are referred to as “translators” or sometimes “macro-actor” and occasionally “focal-actor”.

### **Obligatory passage point (OPP)**

The obligatory passage point is a situation that must occur for the actors to achieve their interests (Callon, 1986). The OPP is set out by the macro-actor when an innovation or change in the network occurs. Heterogeneous, like many of the other concepts of ANT, the OPP can be a person, occurrence, place, process or thing.

In his often-cited study of scientific research into the Scallop fisheries of St Brieuc Bay in France, Callon also defined four “moments of translation” through which the network is formed; problematization, interessement, enrolment or mobilization.

### **Problematization**

Problematization is the moment that initiates translation, during which the macro-actor defines which other actants have interests that are consistent with its own interests. Often these are expressed as questions or “problems” to be solved. The translator seeks to establish themselves, or their context as an obligatory passage point and recruit others into believing they offer a solution. (Callon, 1986)

### **Interessement**

Interessement is a series of processes whereby the “allies are locked in place” to begin to form the network (Tatnall, 2002).

The second moment of translation is a process where

the actors convene around an issue to strengthen their determination toward moving through the OPP, all while excluding voices of dissuasion from without or dissenting voices from within. It is a process of convincing actors to accept the definition of the macro-actor by using devices to detach actants from elsewhere and attach them to this point of view. It also involves translating, strategic compromise, and persuasion to lock allies into the proposed roles. (Rhodes, 2009)

### **Enrolment**

Enrolment is the successful outcome of the problematisation and interessement processes and involves “group multilateral negotiations, trials of strength and tricks that accompany the interessements and enable them to succeed” (Callon, 1986). Actor-networks grow as a result of this.

### **Mobilisation**

Callon asks, “Who speaks in the name of whom? Who represents whom?” and goes on to state:

Using the notion of spokesman for all the actors involved at different stages of the process of representation does not present any problem. To speak for others is to first silence those in whose name we speak. It is certainly very difficult to silence human beings in a definitive manner but it is more difficult to speak in the name of entities that do not possess an articulate language. (Callon, 1986)

By this stage, the spokesperson has been established as legitimate in the network and the OPP is accepted and being maintained.

### **Stabilization**

Stabilization is the way in which networks overcome resistance and strengthen internally, gaining coherence and consistence in order to perpetuate themselves (Ritzer, 2004).

### **Convergence**

Actor-Network Theory also deploys the term convergence, here to describe the networks that exhibit greater agreement among its actants following translation. Interests are aligned to a greater degree and coordination is high (Ritzer, 2004).

### **Inscription**

Translation of the actants interests into material form produces texts (in the semiotic sense) that may manifest as reports, documents, film, maps, seminars or media content (Callon, 1986). Inscribed forms are further converted by being “sent out, received, acted upon, reacted to, and sent back” through the network (Rhodes, 2009).

### **Methodology**

Actor-Network Theory, despite its name, is more often presented as a method rather than an established theory. Data gathered is qualitative rather than quantitative, with the prime instruction to researchers [especially by Latour e.g. (Latour, 2005)] being to “follow the actors” – to describe in as much detail as possible the actants, networks, processes of translation and so on (Law, 1992).

Additionally, some guiding principles are offered:

Agnosticism (impartiality between actors engaged in controversy), generalised symmetry (the commitment to explain conflicting viewpoints in the same terms) and free association (the abandonment of all *a priori* distinctions between the natural and the social). (Callon, 1986)

Latour explores this further:

A network notion implies a deeply different social theory: it has no a priori order relation; it is not tied to the axiological myth of a top and of a bottom of society; it makes absolutely no assumption whether a specific locus is macro- or micro- and does not modify the tools to study the element “a” or the element “b”; thus, it has no difficulty in following the transformation of a poorly connected element into a highly connected one and back. (Latour, 1996)

## **An application of Actor-Network Theory**

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In January 2010, BBC Radio 4 began broadcasting a landmark series: *A History of the World in 100 Objects*. This series, which was to run throughout the year in three batches of about 30 programmes, was narrated by the British Museum’s then director Neil MacGregor (BBC, 2010).



In fact *100 Objects* went far beyond the headline radio show; it could in fact be described as a “transmedia” project as there was also a significant web project (including partnerships with regional museums and calls for user generated content), a book was published shortly after the broadcasts by Allen Lane and the entire series was released for free as podcasts on iTunes. Additionally, there was some BBC television production to accompany the series, in particular a *Culture Show* special and the children’s programme *Relic: Guardians of the Museum*. Transmedia is a term used to describe the spanning of multiple media formats by the same narrative experience, as opposed to the adaption of a single narrative to different media formats. It was coined in 1991 by Film Studies professor Marsha Kinder (Kinder, 1991).

The project manifested entirely in mediated forms, as the British Museum’s head of web, Mathew Cock stated:

Interestingly, there was no dedicated gallery exhibition within the museum to ‘showcase’ the 100 Objects together in one space. Instead visitors were encouraged to seek out objects in their existing gallery setting using a floorplan and guide. Thus it could be said that this was a broadcast project, not a marketing effort for an exhibition. (Cock, 2011)

Each broadcast was 15 minutes long and explored a single object per episode. Objects were grouped into batches of 5, each batch represented a chronological period and the periods ran in chronological order, but the objects within a batch did not. Neil MacGregor narrated each programme, but one or more “informed” voices would contribute to the narrative. These contributors ranged from curatorial

or historical experts through to celebrity chefs or members of the public who had a connection of some form to the object (BBC, 2010).

The BBC hosted the web content for the *100 Objects* project. The site was a stand-alone section of the BBC website entitled simply “A History of the World”.

It presented the objects in a number of different “views” – lists, pages and an interactive timeline that allowed visitors to “zoom” through the objects in a 3D environment (BBC, 2010). The site was also the point of connection between the British Museum’s output, the BBC’s programme information (and eventually the programmes themselves via the BBC’s iPlayer system), the audience (who were encouraged to submit their stories via this platform) and a host of small and medium-sized museums that contributed another 1650 objects to the project.

## **The moments of translation**

Using Callon’s description of translation (Callon, 1986), we can attempt to establish the problematisation, interessement, enrolment and mobilization that resulted in *A History of the World in 100 Objects*.

To determine the broad objectives of the partner institutions, it is possible to start with their mission statements. The British Museum leads many documents with this:

The aim of the British Museum is to hold for the benefit of humanity a collection representative of world cultures and ensure that the collection is housed in safety, conserved, curated, researched, exhibited and made available to the widest possible public.

Consistent with this aim is the Museum's mission to inspire and excite visitors and other users of the Museum, helping them to enjoy the collections to the fullest extent, through well-presented and serviced public galleries and study collections, world class exhibitions, education programmes and publications and imaginative use of media. (The British Museum, 2003)

From which we could perhaps extract: “benefit of humanity”, “collection representative of world cultures”, “inspire and excite” and “imaginative use of media” as being relevant to the *100 Objects* project.

The BBC has a more succinct statement: “To enrich people's lives with programmes and services that inform, educate and entertain” (BBC, 2013).

Contributing museums have similar missions, for example the Dorset County Museum declares its purpose as being:

“The advancement of education for the general benefit of the public in the areas of archaeology, the natural sciences, natural history, literature, music, the fine and decorative arts, antiquities and local history relating to the County of Dorset” (Dorset County Museum, 2012).

Are objects from the museum collection involved in the translations in the Actor-Network? Almost all of the objects were intended by their creators to have

significance; many are art, others express value or status in other ways; very few were created without intentional meaning beyond their utility. If the British Museum itself is a punctualized black box that is in fact made up of a network of people, things, operations and influences, then the objects in the *100 Objects* programme are also black box forms of prior networks. They can have aims (just as the museum is an “object” that can have aims) even though the people who inscribed those aims into the object may have long since disappeared. Each object is a signifier – that the thing it signified, or the way its significance may have changed (now that it is being interpreted in a present-day context) is a result of translation as it passed through many networks in time and space.

Allen Lane is an imprint of Penguin Books. The Penguin website relays the mission of the imprint as determined by the publishing house’s eponymous founder Allen Lane:

“He saw that creating hardbacks alongside his by now-famous paperbacks would guarantee a stream of saleable titles. [...] Today Allen Lane the Penguin Press (now known simply as Allen Lane) is the leading publisher of popular non-fiction in politics, history, biography, science, philosophy, current affairs, language and much more.” (Penguin Books)

Using these “missions”, that are available to us at this level of investigation, we can say the parties can be said to have the goals outlined in the bottom row of the table below. To reach their goals, each actor needs to overcome problems.

|                   |   |  |                             |   |  |
|-------------------|---|--|-----------------------------|---|--|
| <b>Actor</b>      | <b>British Museum</b>   | <b>BBC</b>   | <b>Objects</b>              | <b>Reg. Museums</b>   | <b>Allen Lane</b>  |
|                   | ▼   | ▼  | ▼                           | ▼   | ▼  |
| <b>Problem</b>    | Limited audience reach "outside of walls"   | Need to show public value  | Lack of present-day context | Limited audience reach  | Need "saleable" content  |
|                   | ▼   | ▼  | ▼                           | ▼   | ▼  |
| <b>Stated aim</b> | Inspire and excite<br>Imaginative use of media<br>Collection representative of world cultures | Enrich people's lives with programmes<br>Inform, educate and entertain | Signify value / meaning     | Education for the general benefit of the public<br>Present topic (archaeology, history etc) | Generate saleable title<br>Be leading publisher of popular non-fiction |

Figure 4.1. Actors, problems and aims

We can assume that the idea of undertaking what will become the *100 Objects* project began life as a point of discussion in the British Museum. ANT tells us the macro-actor is the management of the British Museum – they have a goal (their mission) and they have problematized it sufficiently to convince each other, the board, and relevant staff that the project should be pursued (interessement). Once this has happened, relevant personnel of the BBC would have needed to be recruited to the network. In this case, the problemetization would focus on the BBC's mission; a literal as well as ANT translation given the similarities in terms between the two institutions' mission statements.

There is evidence that there was awareness within the organisations of the negotiation between actors and the alignment of goals throughout the project, as demonstrated by this statement by the British Museum's Matthew Cock:

Crucial to the success of the project was a set of objectives

that were shared by the partners. The activities of all parties were measured against the same aims for which all were accountable. This was unusual in that traditionally the needs of the museum would not be such a direct interest for the broadcaster, and in turn, the museum's contribution would have been more focused on serving its need for a broadcast platform from which to engage both new and existing audiences. A new way of working together was established.

(Cock, 2011)

The actors of the network would have to continuously renew and maintain the connections they were putting together in the network. *100 Objects* is a project that stabilized sufficiently to become reified. Given the British Museum's strategic aim to build partnerships with other organisations and to use media imaginatively (The British Museum 2008), there must have been many attempted formations of networks (projects) that never came to any fruition. These can be said to have destabilized, as the actors were unable to maintain translation and stabilize their negotiations into a punctualized network (black box).

The focus of the idea is such that intersement began between the project idea, the British Museum and the objects in its collection. Early discussion between actors must have mentioned particular objects, even though they may not have made the final programmes. Selection would have happened at many levels, and at many phases of the project. At each moment of selection, a translation takes place – attributes of the object (or in other words, the object's network of date, place of origin, provenance, previous descriptions, fame/notoriety etc) would cause it to be enrolled by the other actors, in relationship with the other objects.

Once the BBC had been enrolled, the choice of media also became actants. As Mathew Cock explains:

The costs of such a series on television would have been prohibitive given the range of locations needed. The programmes would inevitably have become a more generalised history, focused less on the object and more on the location of its origin. Radio offered both depth and focus. The use of the website to add the visual dimension gave listeners a chance to see and study each object, without detracting attention from the audio narrative that was being woven around each object. (Cock, 2011)

Once this relationship of object, museum, broadcaster and forms of media have been enrolled into the network, the macro-actors determine another set of possible actants to involve and the process of intersement cycles around again. This time, the proposed website presents an opportunity to see the objects, but also to involve other museums. These museums are invited to contribute objects to the website, and in return they receive greater visibility and their content is presented on equal terms with the British Museum's own 100 objects through the website's timeline/visualizer interactive (BBC, 2010).

Ultimately, the translation results in the mobilization of the actants into *A History of the World in 100 Objects* – a transmedia project with a radio series, a website, some TV programmes and a book, not to mention contributors, suppliers, public relations and an audience. The network has been mobilized and now the project “speaks for”

the multitude of actants.

The moment of mobilization resolves the problematization that commenced the process of translation. To undertake the project that is *A History of the World in 100 Objects* will “solve” the problems and allow the actors to attain their goals, albeit in a form that has been translated into an aligned goal. The macro-actor has made themselves essential to the network; an obligatory passage point.

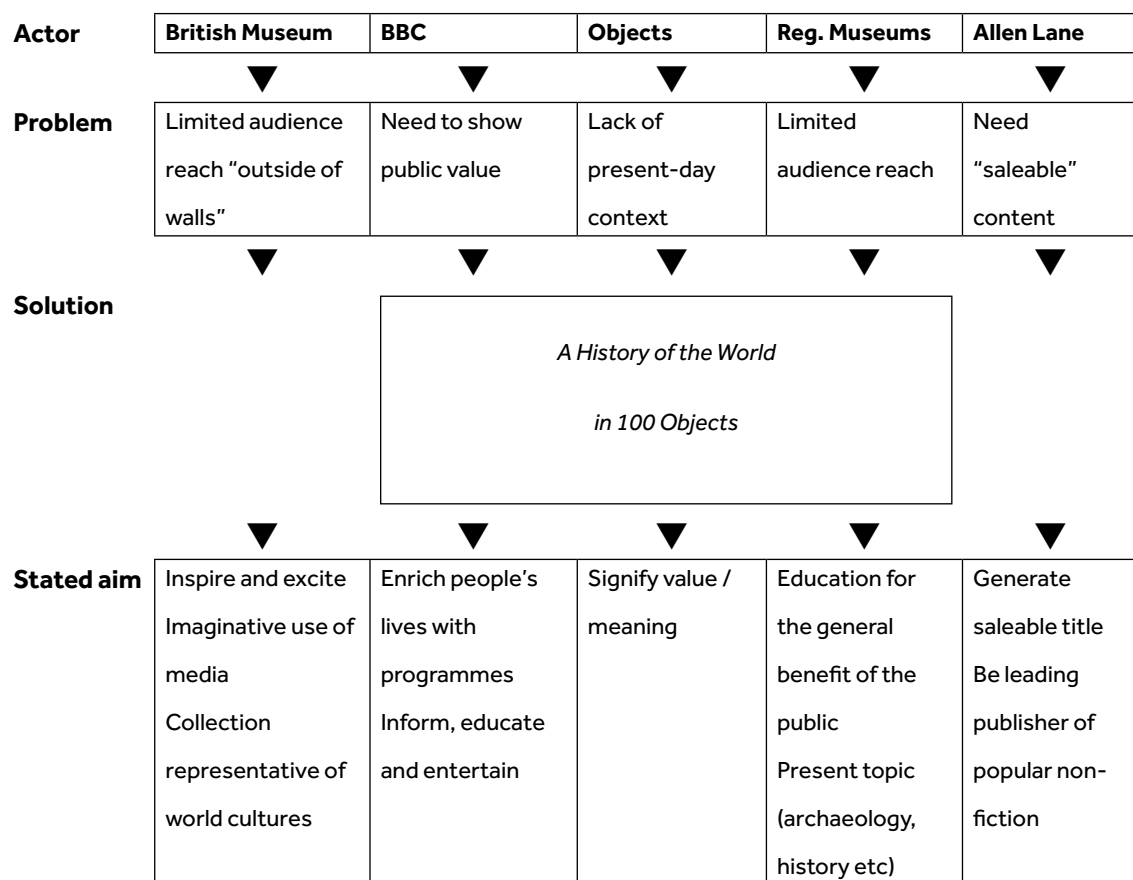


Figure 4.2: Obligatory Passage Point

All actors become translated; the British Museum after *100 Objects* is not the same as before the enterprise. An object received by the public via the BBC is clearly not operating in the same way as when it was made. Even the audience is translated, a person who has been “educated” or “informed” by the texts is transformed in some way.



## Following the actors through one example text

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Using the inscribed form represented by one of the programmes (or indeed chapter in the book), the Minoan Bull-leaper, it is possible to explore the network of actors simply as presented in the text. There are precedents in ANT literature of using received text as a source for an ANT study, rather than data from field work. For example, Latour (and co-authors) used as a source a letter from Louis Pasteur to the French Minister of Public Education that was sent in 1864. In the same article, he analyzed the actors found within a paper (by Reese V. Jenkins, 1983) on the emergence of the Eastman Kodak camera and the mass market for amateur photography (Latour, Maugin, & Teil, 1992). The latter example was particularly relevant to this exercise as it was a “history” with an “author” as a macro-actor.

The chapter chosen from *A History of the World in 100 Objects* can be parsed according to the following approach – if someone, or something, was mentioned in the text, then it is added to a table of actants. A column is added to summarize their description in the narrative and another to represent who that actant was connected to. As actants could have connections to more than one thing, then they could have more than one entry in the listing.

The Minoan Bull-leaper was an object chosen at random from the list of 100.

Figure 4.3 below shows the produced list.

| Name                | Description   | Connection          |
|---------------------|---------------|---------------------|
| Neil MacGregor      | Author        | Minoan Bull-leaper  |
| Rethymnon           | Place         | Crete               |
| Sergio Delgado      | Contributor   | Neil MacGregor      |
| Lost wax technique  | Process       | Minoan Bull-leaper  |
| Lost wax technique  | Process       | Bronze              |
| Turkey              | Place         | Trading             |
| Dr Lucy Blue        | Contributor   | Trading             |
| Arthur Evans        | Archaeologist | Palace              |
| Theseus             | Character     | Labyrinth           |
| Minoan Bull-leaper  | Object        | Crete               |
| Minos               | Character     | Minoans             |
| Knossos             | Place         | Crete               |
| Sergio Delgado      | Contributor   | Spain               |
| Archaeologists      | Profession    | Bronze age          |
| Copper              | Material      | Cyprus              |
| Dr Lucy Blue        | Contributor   | Minoan Bull-leaper  |
| Uluburun            | Ship          | Trading             |
| Religion            | Culture       | Minoans             |
| Homer               | Quotation     | Minoan Bull-leaper  |
| Minotaur            | Character     | Minos               |
| Bronze              | Period        | Bronze age          |
| Labyrinth           | Place         | Minoans             |
| Modern Bull-leapers | Profession    | Bulls               |
| Minotaur            | Character     | Minoan Bull-leaper  |
| Homer               | Quotation     | Minos               |
| Minoan Bull-leaper  | Devotion      | Religion            |
| Minotaur            | Character     | Labyrinth           |
| Theseus             | Character     | Minotaur            |
| Minoan Bull-leaper  | Object        | Rethymnon           |
| Bulls               | Subject       | Sergio Delgado      |
| Knossos             | Place         | Arthur Evans        |
| Bronze              | Material      | Copper              |
| Dr Lucy Blue        | Contributor   | Archaeologists      |
| Arthur Evans        | Archaeologist | Crete               |
| Homer               | Quotation     | Neil MacGregor      |
| Sergio Delgado      | Contributor   | Modern Bull-leapers |
| Artisans            | Creator       | Minoan Bull-leaper  |
| Labyrinth           | Place         | Palace              |
| Rethymnon           | Place         | Minoan Bull-leaper  |
| Arthur Evans        | Archaeologist | Archaeologists      |
| Tin                 | Material      | Turkey              |
| Minoans             | Civilization  | Crete               |
| J. Lesley Fitton    | Reference     | Minoans             |
| Bronze              | Material      | Tin                 |
| Minoans             | Civilization  | Trading             |

|                    |               |                    |
|--------------------|---------------|--------------------|
| Uluburun           | Place         | Turkey             |
| Bulls              | Subject       | Minoan Bull-leaper |
| Arthur Evans       | Archaeologist | Minoans            |
| Artisans           | Creator       | Palace             |
| Michael Rice       | Reference     | Bulls              |
| Minoan Bull-leaper | Material      | Bronze             |
| Cyprus             | Place         | Trading            |
| Dr Lucy Blue       | Contributor   | Uluburun           |
| Palace             | Place         | Minoans            |
| Picasso            | Artist        | Labyrinth          |

Figure 4.3: Table of relationships

The object itself is attributed by the text as: “Bronze Statue of Bull and Acrobat, found in Crete, Greece. 1700 – 1450BC. A small bronze statue of a bull with a figure leaping over it is now one of the highlights of the British Museum’s Minoan collection” (McGregor, 2010).

As can be seen from the network expressed in the tabular form above, the actants are a mix of humans, animals and objects. They were recorded agnostically – if mentioned in the text, the actant was entered directly. Relationships are harder to assert with confidence, but using Latour’s exhortation to “follow the actors”, any actant is connected in a way that “feels” right, with the full expectation of having to reassess criteria and approaches to this aspect as ANT analysis continues.

An example of a clear relationship is as follows: the statue is made out of bronze, bronze is an alloy of tin and copper and the sources of these metals are expressed in the text as being Turkey and Cyprus respectively. A voice is introduced into the programme, it is of an academic contributor, Dr Lucy Blue, a maritime archaeologist from the University of Southampton. She describes the shipwreck of the vessel Uluburun off the coast of Turkey as evidence of the trade in metals and of other products. So we have connections that run from the statue to its

constituent metal alloy, to the metals that constitute that alloy and the places they came from via a present-day voice in Southampton. Dr Lucy Blue is also an archaeologist, so can be connected to the profession of archaeology in general, which is interjecting into the text at several points – via Arthur Evans, who found the statue, via the references that informed the writing of the piece (J. Lesley Fitton’s Minoans) and via MacGregor’s direct narrative that discusses the practices and nomenclature of archaeologists in general (for example: “The sculpture was made around 1700BC, in the middle of what archaeologists call the Bronze Age”).

Having created a table of relationships, it is possible to run the data through software to produce a network diagram, or graph. Graph is a mathematical concept that represents two or more “nodes” or “vertices” with relationships between them. In mathematics the relationship is termed an “edge”, so a graph is a pair of sets, with the set  $V$  comprised of vertices and the set  $E$ , edges. Edges themselves are a subset of  $V$  because they must comprise of two vertices (Diestel, 2000).

Using a graph visualizer on the data set above, the following is produced (overleaf). The relationship between entities (nodes) are symmetrical, as per the tenets of Actor-Network Theory, so edges represent a relationship or interaction, but do not express directionality.

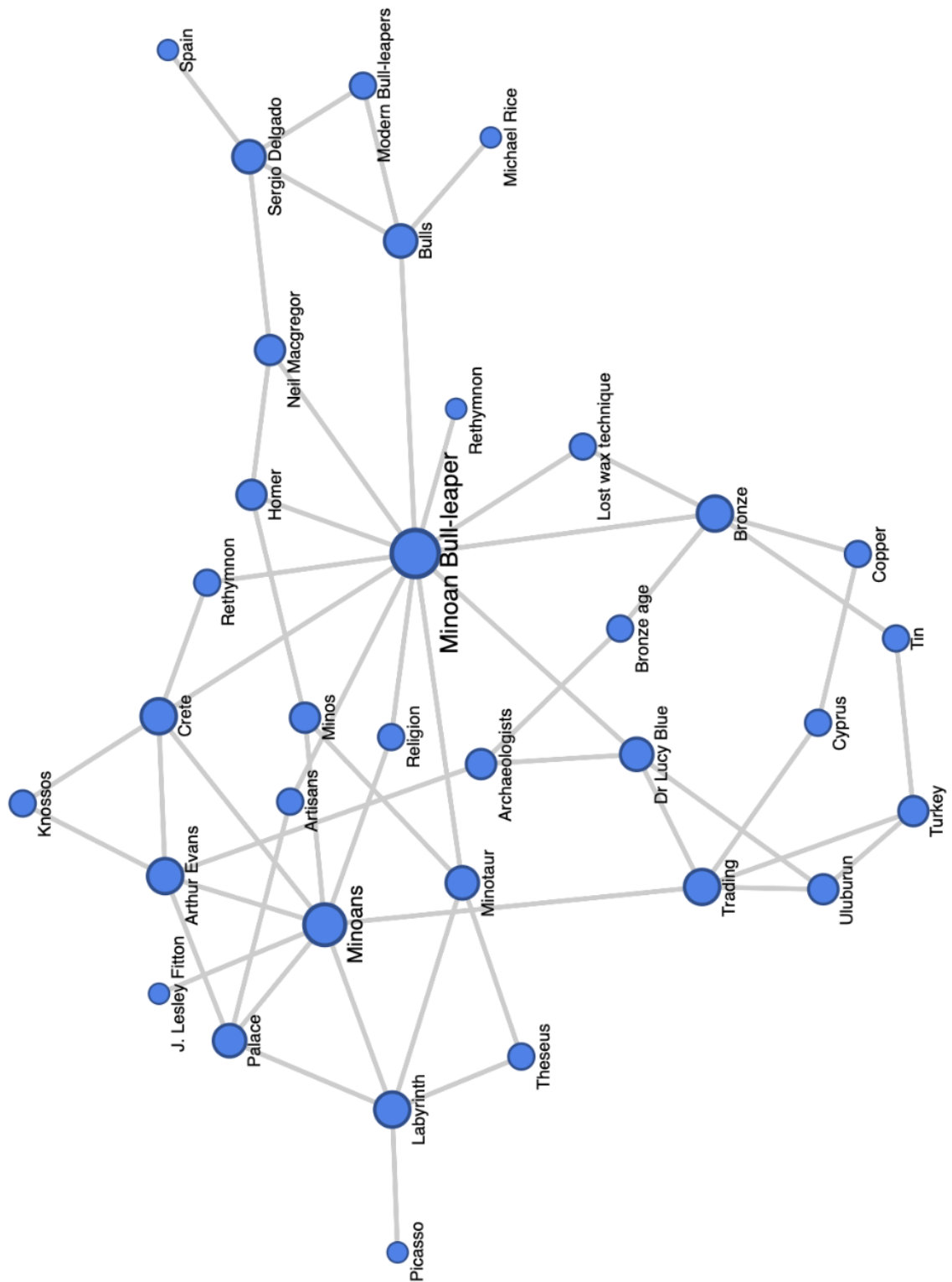


Figure 4.4. Graph derived from table in figure 4.3 (using Google Fusion Table)

This visualization (Figure 1) is a useful technique to help understand the network in a form that is strictly governed by the data entered, rather than a more subjective diagram that might be sketched by a researcher. Looking at the diagram, several points of focus are apparent. Evidently, the Minoan Bull-leaper itself is central, which seems inevitable as it is the topic of the text. It is mentioned in terms of connectivity in terms of the place it was found, that it was assumed to be devotional, that it was made by the lost wax technique by artisans. Also of high visibility is the Minoan civilization (marked as “Minoans”), but also, perhaps more surprisingly “trading” and “bulls” are nexus points – or, to put it in Actor-Network Theory terms, obligatory points of passage. In order for the statue to come into existence materials had to be traded to Crete. In order for the *100 Objects* text to explain the significance of the statue, a passage of text had to explore the significance of bulls. ANT expresses the relationship between signified and signifier further: bulls co-produce the statue within Minoan society – the statue could not exist without bulls to represent, the Minoans’ understanding of bulls was framed by both the “sport” of bull-leaping and the representation of that by the statue. Thus this part of the network is both material – physical bulls and a physical bronze statue are connected, and at the same time semiotic – meaning is exchanged between these two vertices of the graph.

This form of graph-based data analysis has been utilized by Bruno Latour himself, notably in a joint paper produced with Sciences Po colleagues: *The Whole is Always Smaller Than Its Parts: A Digital Test of Gabriel Tarde’s Monads* (Latour, Jensen, Venturini, Grauwin, & Boullier, 2011). They used graph visualization to examine the work of Gabriel Tarde (1843-1904), who argued against the polarization of social theory into micro and macro domains; individual vs society. They argued:

when it was impossible, cumbersome or simply slow to assemble and to navigate through the masses of information on particular items, it made sense to treat data about social connections by defining two levels: one for the element, the other for the aggregates. But once we have the experience of following individuals through their connections it might be more rewarding to begin navigating datasets without making the distinction between the level of individual component and that of aggregated structure [...] One might even argue that the level and precision of information that, before the advent of digital tools, were accessible only for the spread of scientific keywords and concepts through papers and citations, have now become the standard for all sorts of individualizing profiles – a seminal idea that has not been lost on the founders of Google”. (Latour, Jensen, Venturini, Grauwin, & Boullier, 2011)

Because there is a third column that expresses a role for the actant within the network, it is possible to produce a second graph visualization, using name and description as criteria.

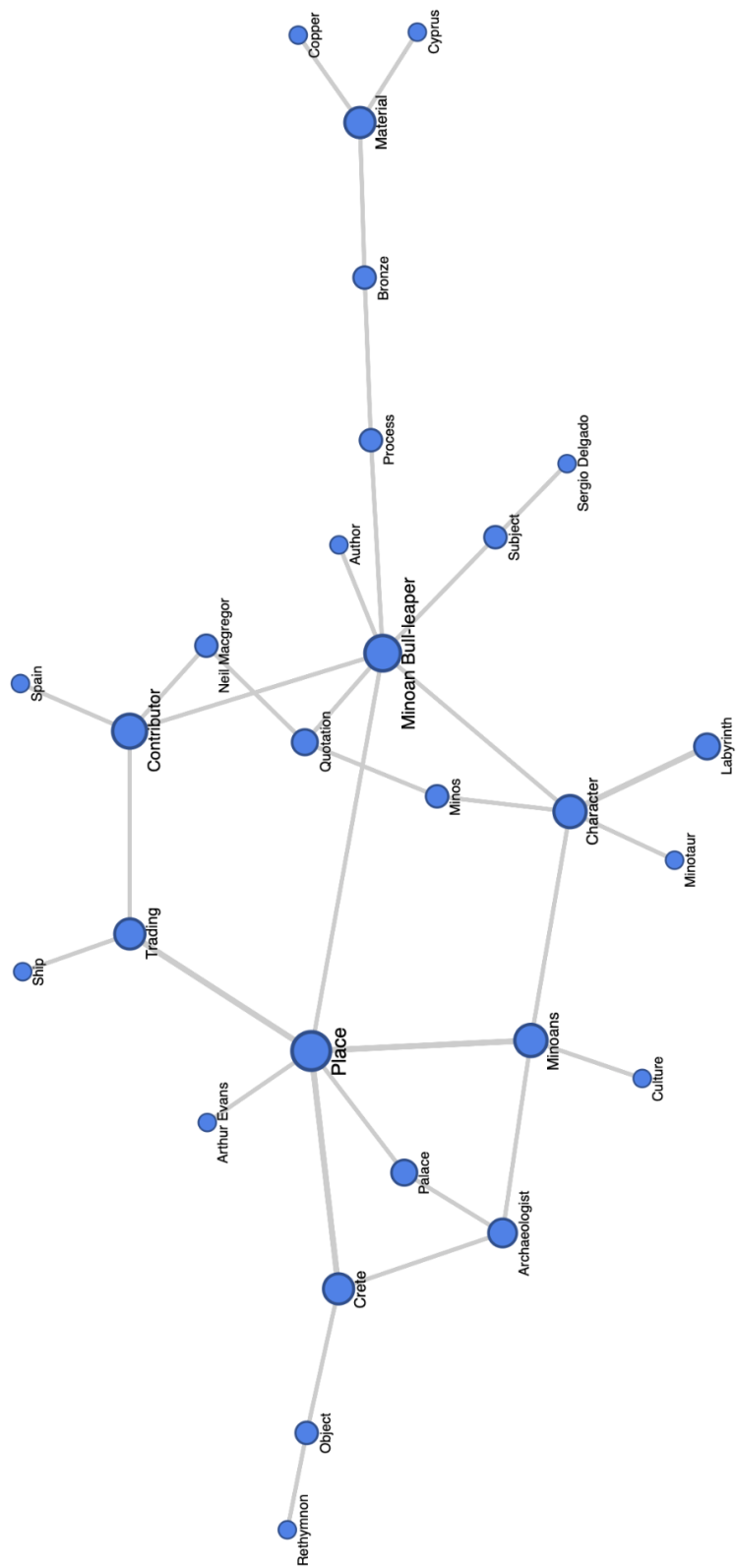


Figure 4.5. Graph derived from table in figure 4.3 using description as a vertice (using Google Fusion Tables)



This version brings to the fore the positions of contributors to the radio programme and reveals a cluster of relationships to place. Another locus is the term “characters” that were used to represent mythological or poorly understood historical actors mentioned by MacGregor (who reported that “we have no idea what the people of this rich civilization around 1700 BC actually called themselves, Evans, believing he was uncovering the world of Minos, called them quite simple Minoans, and they’ve remained Minoans to archaeologists ever since”).

### **Casting a wider net (or is it narrower?)**

Following the examination of one text in detail using ANT and Graph, it seemed logical to extend the assessment to the whole of the British Museum’s *A History of the World in 100 Objects* project. Only relying on the text of the radio programmes would not give a wide enough picture for this exercise, but it did offer a useful starting point: especially in the acknowledgements page of the book. Here could be found the immediate network of contributors, as seen by MacGregor. In this section of the book, it is interesting to note that MacGregor himself sees the book as a product of network, revealing to the reader that:

Although I appear as the author of the series and the book, they are in fact the work of many hands. *A History of the World in 100 Objects* has been in every sense a team effort, which would not have been possible without the knowledge and skills, hard work and dedication of many colleagues.

(MacGregor, 2010)

Within the acknowledgments approximately 30 named colleagues from the British Museum and 35 named collaborators from the BBC and from Allen Lane/Penguin are listed. There are also several instances of generalized thanks – for the regional museums, contributors to the programmes, CBBC and any other people not otherwise mentioned (MacGregor, 2010). From the same book, it is also possible to trawl through the main body of text and isolate the expert contributors whose voices appear in each programme (generally one or two per episode).

Armed with this list, we can embark on a little “netnography” (online ethnographic research). Netnography is a neologism defined by Robert Kozinets in 1995 to represent ethnographic research in online environments and its data-gathering methods include ethnographic staples such as surveys, interviews and focus groups, but also encompass “social network analysis”. This is set out as:

In social network analysis there are two main units of analysis, ‘nodes’ (social actors) and ‘ties’ (relationships between them). (Kozinets, 2010)

With this definition in mind, we can discover connections (“ties”, “edges”) between the people mentioned in the book, the institutions and the project. The most effective “field” for providing data was the business-oriented social network LinkedIn. LinkedIn is a website populated by approximately 250 million “professional” workers, who are attracted to the platform by the promise of making contact with current and former colleagues, potential employers, suppliers or clients and the chance to participate in a wide range of discussion “forums”. Members upload and edit their own profiles and invite other members to “connect” to their profile. These connections explicitly make use of Graph; it is the fundamental

engine behind the platform's logic, both as a product and as a computer system.

LinkedIn provides each user with indications of the “steps” between their 1st order connections, those that are connected to that set of people (2nd order) and those connected to that “circle”.

From the public information posted on profiles, plus the connections between people and organisations, supplemented with a few cross-searches on key terms, it is possible to derive a list of job titles and roles for the people mentioned in the book and many of their colleagues. Other than LinkedIn, we can draw in data from staff profiles on the BBC and British Museum sites, minutes from Board meetings and official organization charts or descriptions from the three main institutions. These were cross-referenced with career/job descriptions from industry advice sources such as Skillset, the National Careers Service and UK Graduate Careers. The initial dataset contained several hundred people, but this was edited down by combining similar job titles (for example, there are many variations of the role “producer”). The information is further combined with the key actors/actants from the chapter analysis undertaken above. To avoid overwhelming the visualization, only 5 objects from the 100 were added (in the abstract as Object 1, Object 2 etc.).

This new dataset was transformed into a table of relationships and a new graph produced (Figure 4.6).

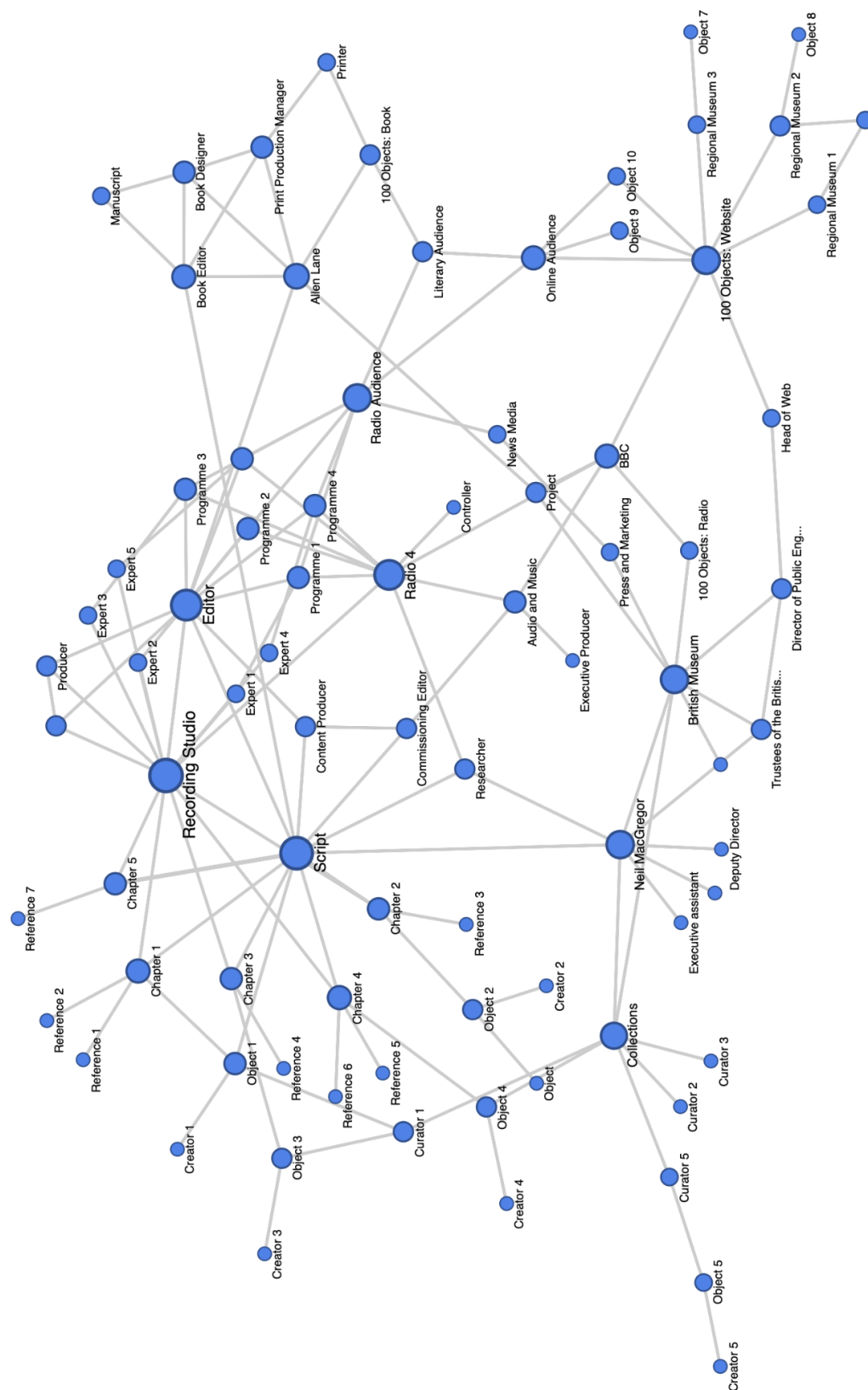


Figure 4.6: Graph of actants in a network for *A History of the World in 100 Objects* (using Google Fusion Tables)

The immediate impression that this graph presents is that the script and the recording studio are important obligatory points of passage for many of the actants. The script is an important inscription, that is a locus of negotiation, renegotiation, exchange of information and project programme. The script defines both MacGregor as the author, it is the place where the inscription of the objects will have accumulated, themselves forming the network that will be punctualised into the creative work that is *100 Objects*. The script is a token that moves through the network, connecting objects selected from the collection with the “experts” that help inform each narrative. It would also have been a connection between the editorial actors – author, proofreader, commissioning editor, content producers, online and offline editors will all have acted upon, and been acted upon by the script as it evolved towards a point that it could be used to guide the recording.

The recording studio is most certainly an obligatory point of passage for the radio programmes; it is here that the script is broken up into constituent chapters and translated (within the network of recording and production technology, plus skilled staff, that make up the black box of a studio) into an audio form, ready to be broadcast. It is also the place where not only MacGregor’s voice is captured, but also the voices of the “expert” contributors to each programme. These voices arrive in the chapters at this point only, although their content would have been most likely indicated by the script, their text would only be enrolled into the network here. So they also need to be translated into the written word after the recording, and ingested back into the script that will then be ready to be edited at Allen Lane/Penguin (by an editor of course, another key actor), typeset and laid out by the book designer and sent off for production.

The algorithms that create a visualization of a graph are principally concerned with allowing enough space between the nodes to avoid the overlapping of circles (and to show labels in the “clear space” if possible) and to organize the nodes so the edges can be drawn with a short length. This automatically produces the effect of highly linked nodes appearing towards the centre of the diagram and less connected vertices tending towards the edges of the diagram. In our example, the objects themselves have gravitated to the outskirts in this manner. At first, this seems strange, as the media product that is *A History of the World in 100 Objects* is, of course, about 100 museum objects. One would assume that they might take up a central place in the network. Is this because the data has not captured enough relationships with the museum objects as actants, or is the graph expressing a central ANT concept – that of translation? The project represents 100 objects, but it is not 100 objects, but rather a series of broadcasts, many downloadable files, a book and a website. The creative and contributing actors work upon the intermediaries as they translate through the network. The audience receives the media, not the thing itself.

The audience itself is of interest. It has been added to the network in crude punctualized black boxes – Radio Audience, Website Audience and Literary Audience. These are connected as they are, in fact, drawn from overlapping groups of people. The radio audience is the largest nexus, expressing the primary output of the project. But it is also possible to trace back through to a small contingent of the audience that uploaded texts about their own objects to the *100 Objects* website on [bbc.co.uk](http://bbc.co.uk).

By accident, rather than by design, this graph has a tendency to express the passage of time from left to right.

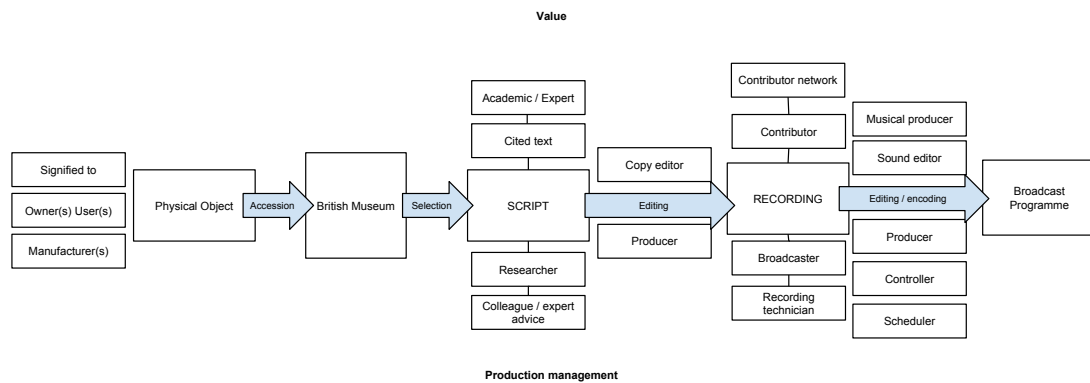


Figure 4.7. Isolation of a single object's "progress" through the network

Using that tendency as a guide, it is possible to isolate (and clarify) the translation of a single object into a radio broadcast about that object. Starting at the left-hand side of the diagram (a point that could represent any place or time in history, Latour is very clear that the network need not be local or localized in any way), one can see the origination of the object – a mobilization of owner, user and manufacturer. As noted above, all of the objects were created to bear significance. Therefore, the origin network (the source community in ethnographic terms) includes those that the object was intended to connect to in a semiotic exchange.

Once it has come into being (stabilization followed by punctualisation), the object essentially leaves its source community behind in time, place or both and through a translation process that equates to provenance, becomes enrolled into the British Museum's collection (museum accession could perhaps be seen as an object being mobilized into a network of heritage resources and heritage professionals). To create the next step in the process, MacGregor and curatorial colleagues must have undertaken a selection process. In ANT terms, they were undertaking a moment of interessement, enrolling those objects (and their new, museological networks

of curators, conservators, interpretation and situation), mobilizing those objects that “worked” (proved useful allies for the programme) and rejecting those that did not. ANT informs us that these negotiations and translations are continuous; the network must be continually reproduced by its actants as long as it is in existence (Law, 1992). The project as a whole must be continuously maintained as a network in order to survive.

Once selected, the object translates again, into the obligatory passage point of the script that was discussed above. Here you can see the network effects of the vertical axis of this diagram – “value” is added to the “production line” of the text from above, management is effected upon the process from below. The value aspect has a Bourdieuvian characteristic; the networks behind the academic or other experts that contribute to the text both at the script and the recording nodes impart cultural capital into the process. We believe what MacGregor is telling us about the object is important – is of value – not just because the director of the British Museum is telling us, but because people with social and cultural capital (cited academics in the book or expert/celebrity voices on the radio broadcast) are shown to agree with him. In ANT terms, their capital is an actant that is mobilized into the program. This analysis could be indicating that other theories can be synthesized into actor-network theory by translating their concepts into actants.

Finally the recording goes through a process of translation itself, acted upon by its network ties to editors, producers, controllers etc. (not to mention the omitted actants of recording, editing and transmission technology) and emerges as the radio broadcast, as received by the listener via their radios, computers, iPods or other mobile devices. Whereupon, the content of the broadcast enters a new set of networks of relationships of people, meanings and things that are not expressed in



the network diagram.

Conclusion:

## **The utility of ANT for the study of production**

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When first confronted by the literature about ANT, it is easy to become overwhelmed, despite the initial promise that ANT might seem to offer. So much of the text is concerned with what ANT is not, rather than what it is, or presented as dense descriptions of concepts with little practical examples of application. However, as can be seen in this pilot, there can be benefit in working through, in a step by step manner, a couple of Latour's own applications of the theory; one from relatively early on in its development; the other from 2012. Visualization further unlocks the method – by following the actors and running their relationships through graph visualization, just as Latour *et al* have done so before, we can trace the connections and understand many of the relationships through the clusters and outliers that are revealed and thereby begin to bring the network into focus.

The principle of agnosticism to the nature of each actant becomes clearer in application – the creator of a devotional item can connect to a present-day audience member across time and space via any number of intermediaries and the transactions involved will still make sense. ANT helps us to understand how an actor could be both material and semiotic. The obligatory passing point that is the script required MacGregor and colleagues, computers, email and no doubt paper and toner, but it also transmitted meaning in many different ways, acting as intermediary, token of exchange and database of concept and connection all at the same time. Without ANT's insistence on symmetry between human and non-human actant, we could easily ignore the script altogether. Metaphorically, ANT shines a

light into obscured corners of the research subject, revealing hidden connections, attributes and important factors to the researcher than might be derived through other, human-focused approaches.

ANT produces a lot of data, much of which has to be abandoned in order to have a practical output that is acceptable according to the de facto terms of engagement of academia. This introduces a risk factor into a research project as Latour bemoans in *Reassembling the Social*:

Even if we work diligently, things don't get better because, after a few months, we are sunk in a flood of data, reports, transcripts, tables, statistics, and articles. How does one make sense of this mess as it piles up on our desks and fills countless disks with data? Sadly, it often remains to be written and is usually delayed. It rots there as advisors, sponsors, and clients are shouting at you and lovers, spouses, and kids are angry at you while you rummage about in this dark sludge of data to bring light to the world. And when you begin to write in earnest, finally pleased with yourself, you have to sacrifice vast amounts of data that cannot fit in the small number of pages allotted to you. (Latour, 2005)

But Actor-Network Theory appears to be a useful tool to describe a situation, but also its methodologies offer several analytical tools. Additionally, the exercise that runs through in this chapter also indicates that ANT might successfully be synthesized with other theoretical approaches, and not just those that it counts as its precedents.



## Chapter 5

# Case studies: Four moments of museum media

**T**his chapter introduces the four case studies at the heart of this research. Here, we set out to describe the project contexts and production outcomes of the work at Brighton Museum, Southend Museums, the British Museum and the Cooper Hewitt. The case studies come from a variety of organisational circumstances – two of the museums, Brighton Museum and Southend Museums’ Beecroft Art Gallery, are part of local authority cultural services, the British Museum is a national museum directly funded by the UK government and the Cooper Hewitt in New York is part of the Smithsonian Institution. These museums were selected as case studies as they had all produced media projects utilising technology that was new to them, between 2012 and 2015. In each case, the novelty of the media technology choices posed new challenges and opportunities that the institution had not encountered before with other projects. In this chapter, the media production undertaken for each project is described as a series of chronological narratives, providing a basis for subsequent analysis in Chapter 6.

## **Brighton Museum**

### **World Stories, Young Voices gallery**

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In 2012, Royal Pavilion & Museums, Brighton & Hove reopened their ethnographic gallery in Brighton Museum under the banner “World Stories, Young Voices”.

The new gallery redisplay objects from their ethnographic World Art collection and is arranged into colour-coordinated sections; presenting objects from New Ireland (in the Pacific), Peru, the Arctic, Mali, Burma, Iran, the Amazon, as well as from Brighton itself. Accompanying the objects is a range of in-gallery media – several sections have monitors built into the displays that play videos on a loop and alongside many exhibits QR codes can be found. Scanning the QR codes with a phone or tablet reveals further content (through the device’s web browser) including more films, additional interpretation (as mobile-optimised web pages) and a poll.

A computer, mounted as part of a seating area in a stainless steel “kiosk”, allows visitors to watch all videos from one place and browse all the additional information available.



Figure 5.1: Scene from the redeveloped World Stories, Young Voices gallery (Photo: Royal Pavilion & Museums, Brighton & Hove)



Figure 5.2: Computer kiosk and seating area in the gallery, with examples of quotes mounted on walls. (Photo: Royal Pavilion & Museums, Brighton & Hove)

The World Stories, Young Voices gallery redevelopment was largely funded as part of the London 2012 Olympics’ Cultural Olympiad “Stories of the World” strand – which aimed to “tell inspirational stories about the UK’s relationship with the world” (LOCOG, 2011). The museum service’s aim for the gallery redevelopment project was to engage with a youth audience as direct participants in the shaping of the gallery. 246 young people from diverse backgrounds, including “hard to reach” and “NEETS” (Not in Education, Employment or Training) were involved in the development of the gallery and a further 1,865 young people took part in events around the launch of the new space (Mears, 2014). The museum service also collaborated in 18 partnerships with other organisations, some also in the heritage sector (such as other local museums in places like Hastings and Bexhill-on-Sea), but also local institutions like Brighton & Hove Albion Football Club and some source

community groups, for example the Kitikmeot Heritage Society in Cambridge Bay, Coppermine, Canada.

A characteristic of the gallery presentation, both in the space and in the media, is how often commentary and interpretation is presented in the voice of the young people. On the walls, vinyl lettering quotations relay statements such as “I don’t think any culture should disappear from the planet. They all have a role to play.” A video is animated by primary school children, and describes Inuit artefacts and how they are used. Each QR code is linked by photograph and call to action with the young people who provide the narrative, for example: “Scan this code to hear Neda talk about the historic pen box on display”.

Another characteristic of the media is the obvious attention given to accessibility. Every film is subtitled, and many have British Sign Language (BSL) interpretation. The computer kiosk is also equipped with screen reader software. Visitors can pick up a device called a “Pen Friend” that plays back audio description recordings for each section of the gallery for those that are blind or partially sighted. The media produced for the gallery is also available through a dedicated website (<http://www.brightonworldstories.org.uk>) and the films produced are available through the museum service’s YouTube Channel.

The project was led by Helen Mears, Keeper of World Art at Royal Pavilion and Museums, Brighton and Hove. By June 2010 the museum team had coalesced into Helen and five curatorial colleagues, line managed by Sarah Posey. As the project gathered funding and gained momentum, it was agreed that internal project management would not be sufficient and so an external project management company was recruited. This was Focus Consultants, a Nottingham-based firm



with a track record in managing capital projects for the arts and cultural heritage sector (alongside many other sectors). Focus appointed its staff members Steve Fletcher (Lead Project Manager) and Ellie Clarke (Senior Project Manager/Quantity Surveyor).

Young people were engaged in a number of ways throughout the development of the gallery, including the following:

- Students from Patcham School worked with an Illustrator to make an animation about Inuit Ivories and life in the Arctic.
- Young people from Brighton worked with Albion in the Community and Brighton Museum to direct and produce a film about football, comparing their own experience with that of young people from Bamako in Mali. They also helped in the selection of objects for the final display.
- Young people from Art in Mind explored the masks and sculptures associated with the malagan cycle of rituals in New Ireland (Papua New Guinea). They studied the museum's malagan friezes (kobo-kobor) and worked with an artist to create their own carved and cast sculptural frieze.
- Whitehawk Youth Arts Group created stories about how some ancient Peruvian objects found their way to Brighton and what they might mean. They recorded their pieces in a studio. They also worked on a display about the Amazon.

- Members of R.A.S.P (Refugee and Asylum Seekers Project) worked with a professional photographer and looked at objects that will feature in the new gallery to create photographic portraits of themselves and the objects.
- Young people from the ‘Museums Collective’ (the Royal Pavilion & Museums youth advisory group for 16-21 year olds) also participated in the focus groups. (Boyd, 2012)



Figure 5.3: Scene from the James Green Gallery of World Art, Brighton Museum's ethnographic collection gallery that was replaced by the World Stories, Young Voices gallery

The gallery redevelopment was often presented as a “solution” to the problems perceived with the museum's previous ethnographic art gallery: The James Green Gallery of World Art. Opened in 2002, as part of a redevelopment of the whole of

Brighton Museum, the gallery had become perceived as “dark”, “bewildering” and “not relating to young people” (Mears, 2014). A series of interviews, workshops and observation had been carried out by museum staff and external consultants, with findings about what visitors wanted from the new space being “surprisingly consistent” (Brighton Museum, 2010), namely:

- A lighter, brighter more colourful space with clear pathways through and clearly themed areas
- Displays which include both historic and contemporary objects and new commissions
- More items on open display
- Lots more context, provided through different mediums: sound, film, imagery – but not too much text
- Interactivity for all ages: things to touch and do, games, touchscreens,
- Somewhere to sit and find out more
- Displays which are culturally specific, making clear where in the world the material comes from
- Displays which make connections to Brighton and to the lives of the target audience (Brighton Museum, 2010).

These audience desires became requirements for the project and were included as part of the design brief for the new gallery. Redman Design, a specialist in exhibition design, won the contract. By the autumn of 2011, Redman submitted preliminary designs. They expressed the overall approach as being:

Individual stories will be presented within graphically themed zones where colour, graphics and lighting will create distinct atmospheric environments. The displays are clustered around the perimeter of the gallery with clear sight lines through the centre of the spaces. Themed zones are created for each story using colour & graphics. These are tied together at high level using a fabric canopy. Each story is clearly defined through images, colour and objects, providing an opportunity to reflect the culture and geographic location of stories as well as other aspects of the subject matter. Breaking the gallery down in this way will aid navigation, encourage browsing and engage with visitors. (Redman, 2011)

Figures 5.4 and 5.5 show how Redman represented the themed zones at this stage. Each was to be a strip that stretched the width of the gallery space, with wall graphics, display cases and panels linked across the space by a “canopy”. The zones themselves would run in sequence down the length of the gallery, leaving space at the ends for the lift and a seating area.

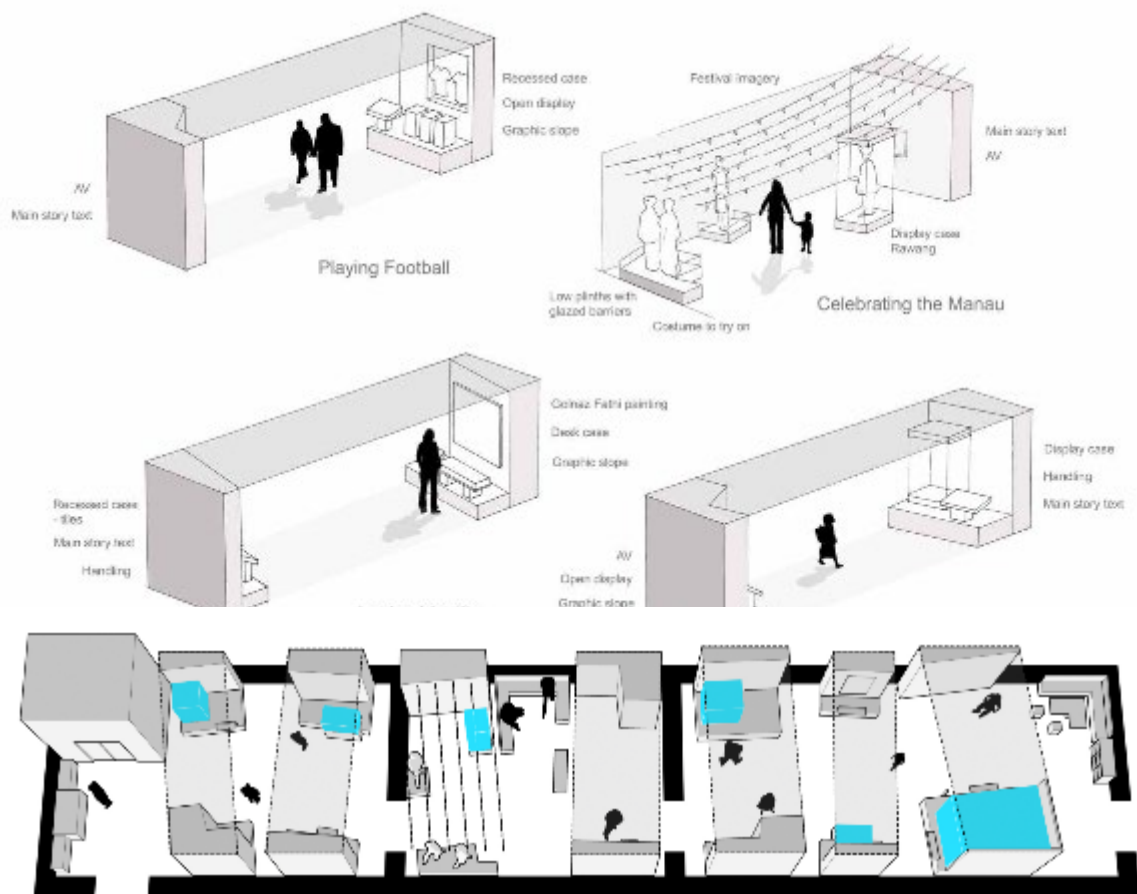


Figure 5.5: Arrangement of zones within the gallery as a whole (Image: Redman Design)

As well as being keen to engage in a process of “co-design” with young people, the museum also wanted to ensure high standards of accessibility throughout the new gallery and its media outputs. To this end, they engaged Jayne Earnscliffe, a consultant with a specialism in museum accessibility and they recruited people to form the Access Advisory Group (AAG) with the expressed purpose of:

Representing the experiences and championing the needs of visitors with a range of disabilities, including learning difficulties, mobility restrictions, and sight and hearing impairment. All have a well informed perspective, and experience of advising museums and visitor attractions

on the development of new permanent and temporary exhibitions. (Brighton Museum, design brief, 2011)

For Mears, seeing the first designs was a “shock”, but the core design concept did survive throughout the project:

I think it was quite a shock when we first saw Redman’s outline designs. I hadn’t quite imagined it, and they had this idea of a kind of canopy – there were strips of narrative along the gallery but a graphic up the wall then a canopy and then a graphic down the other wall so you would get indications on both sides. I think we quite liked that, but then with the canopy, obviously people were worried about the smoke [detector] heads [and other things]. So that had to go. It was quite shocking to see their first designs but I can’t remember why, but it’s just when you have an idea in your head and then you actually see it – but fundamentally we didn’t shift from the outline design work they presented. A little bit of moving around, a little bit of fiddling stuff but also they were quite canny to present it in a certain way. Also it was a restricted time, we had a year from them being commissioned to the gallery opening, so there was a real pressure to deliver and we didn’t have much time to make decisions. (Mears, 2014)

Feedback to Redman was framed in a document as being from different groups of stakeholders, for example: “Project team and management team and technical

team”, “Access Advisory Group” and “Roy Flint” (Senior technician at the museum). Each grouping had their own voice, but actions required from Redman were voiced by the project team, and coloured red for emphasis. For example, a response to the canopies that stretched between walls for each zone was:

Number of concerns raised in respect of the canopy proposals from a maintenance, cleaning, objects being thrown on top etc (see comments below as well). Redman to review design proposals to take account of concerns that have been raised and updated designs / options to be presented. Please note this is a *key issue for the client*, a update on progress would therefore be welcomed prior to the next Internal Senior Management Team meeting on 17 October [Original red text italicised] (Brighton Museum, feedback 2011)

The Access Advisory Group was concerned principally with alternative formats for the (predominantly visual) gallery content, including tactile elements, sensory material and also:

Gallery needs to make equivalent offer for audio as for visual information. Proposal to use audio posts (HM commented on cost restrictions). Use of audio (and signposting to it) to be addressed as part of commissioned research into feasibility of QR codes. (Brighton Museum, feedback 2011)

For a display that was so clearly divided into topic zones, selection of objects and production of interpretation became a critical aspect of the project.

Then we had the painful process of drawing up narratives for the galleries, and there were billions of them. People were working on stories, I think I had a couple and Harriet had some and other members of the team had some, and we had an all day meeting up at Preston Manor. We had a shortlisting template that Laura, who was project manager then, had drawn up, and we had to shortlist out project ideas on certain criteria. We were looking for some kind of geographical spread, some stories that already had some resources and partnerships in place, others that could be completely new. So we were looking at doing – we need partnerships, what kind of collections did we have around this story, what partnerships, what opportunities are there and what stories based on what we knew would appeal to young people. (Mears, 2014)

The criteria, set out in the Awayday agenda for 11th October 2010 was as follows:

1. Appeal to young people
2. Strength of story
3. Collections strength
4. Collecting potential
5. Local community links
6. Source & diaspora community links (Brighton Museum, 2010)

From which stories were scored as per Figure 5.6:



|                                     |    |
|-------------------------------------|----|
| Football                            | 22 |
| Inuit                               | 12 |
| Musical journeys                    | 10 |
| Islamic art/contemporary Afghan art | 8  |
| Inca burial                         | 7  |
| Burma                               | 5  |
| Ngarrendjerri                       | 5  |
| Day of the Dead                     | 5  |
| Rabari                              | 4  |
| Dress & identity                    | 4  |
| Miao                                | 2  |
| Tunisia wedding                     | 2  |
| New Ireland                         | 1  |
| Amazon                              | 1  |
| Benin                               | 1  |

Figure 5.6: Story scoring for World Stories, Young Voices gallery

The “winning” stories were further developed and used to create the exhibition design brief that Redman Design ultimately won. Figure 6 shows the first page of the “Football” story – and how this was communicated with a summary, central theme, key message, list of objects, list of media as well as (not shown) accessibility requirements, how young people would be involved, whose voice would tell the narrative of the piece and any conservation or security issues (Brighton Museum, design brief, 2011).

## 5. Football - Mali

### Summary:

This story explores how football is a shared passion and vehicle of aspiration around the world, and how it is an expression of globalisation. The display will use the voices of players in Mali and Brighton & Hove. Contemporary collecting will supplement the museum's existing collection of West African football shirts, posters, and banana fibre balls.

### Central Theme

The challenges we all face, and how we respond to these challenges in creative ways

### Key Message:

Understanding and expressing who we are. Football is a vehicle for identity and aspiration

### Objects:

Detailed object lists will be provided following appointment but will likely include:

- 2 x banana-fibre footballs, Cameroon
- Wooden trophy, Cameroon
- Football strips from Mali
- Football boots
- Malian football made from recycled materials
- T-shirts
- Trophy
- Paper ephemera: magazines, posters

### Media:

- Audiovisual - film of 2 young people's football tournaments, one in Whitehawk, Brighton and one in Bamako, Mali
- Audiovisual - Interviews with players and members of their families (some interviews in French / Bambara / French sign language)
- Audiovisual - Interviews with professional footballers, some of West African heritage, about their experiences as young people
- Graphic - Portrait shots of young players and professional players
- Graphic - large colour images of players in Mali and Whitehawk



Figure 5.7: Excerpt from design brief showing story description

Media content for the exhibition was classed as AV (audio visual) and split into “Hardware” and “Software”. Broadly, requirements for software were described as being “Editing of existing film footage”, “Addition of subtitles and BSL invision” and “Installation of accessible in-gallery kiosk, with cms enabling access to all film and A/V content” (Bacon, 2011). The “software” contract was sent to prospective

companies at the end of 2011 with a deadline for submissions of the 25th January 2012, with a view to launching the media (along with the gallery) in May 2012 to coincide with the activities surrounding the 2012 London Olympics. The brief and procurement process for the media was handled by Focus, with input from Redman Design (Mears, 2014).

Surface Impression submitted a proposal for the tender and was commissioned in February 2012. As well as the content of the proposal and the qualities perceived at the pitch meeting, the selection panel was attracted to the local nature of the company:

there was certainly an interest in using a Brighton company because it hadn't been possible to give the other contracts to Brighton companies and of course there was a Green [Party] administration. (Mears, 2014)

Project management was structured around a series of contractor meetings, held at the museum on a roughly monthly basis. Attendance of the meetings was quite large, with members of the World Stories Young Voices team, other Royal Pavilion and Museums staff, Focus Consultants, Redman Design, and the February appointees – Surface Impression, The Hub (fit-out contractor), Click Netherfield (display case manufacturer), Sirius (physical interactive fabricator) and Format Display (large format printers) (Focus Consultants meeting agenda, 2012).

Surface Impression introduced some challenges to the AV briefing, drawing upon previous experience of media development. The company planned to use an open source, web content management system to provide media to the gallery and to

replicate the same content on the web so it was generally accessible to the public. QR codes had been a key part of the World Stories Young Voices project plan, but the Surface Impression team was sceptical about the adoption of QR codes by the general public. With an eye to the longevity of the exhibit, they advocated making the QR codes a non-permanent element that could be replaced with a different method in the future if need be. Redman agreed to this and changed the design so the QR codes would be mounted on self-contained strips, attached over the wall panels, rather than integrated into them.



Figure 5.8: QR code panels, to be mounted over the wall graphics

Surface Impression adopted its typical development process for the development of a user interface for the interactive media, starting with wireframe designs, then creating static representations of the final screen layout and finally a working prototype that could be tested, refined and deployed.

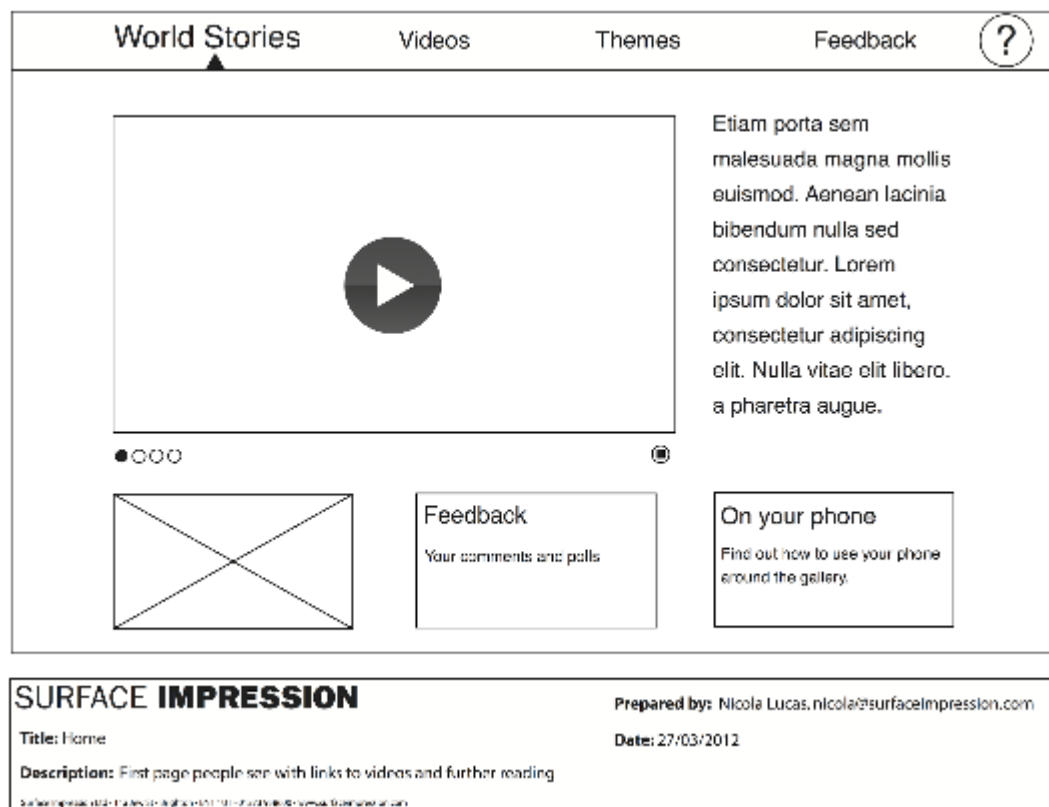


Figure 5.9: Wireframe for media interface / website for World Stories, Young Voices



Figure 5.10: Static design for the same screen as depicted in Figure 5.9.

A key part of the Redman Design concept was a series of large-format graphics that were to appear throughout each story zone. Accompanying these was a plan for a large format map of the world that would help visitors to locate the sources of the artefacts on display in geographical space. Surface Impression planned to use the same graphics throughout the web content, to provide continuity between the gallery space and the media. However, sourcing these images, in combination with the lead text for each panel, proved to be a point of difficulty for the museum team, particularly as they were getting responses from both young people and the Access Advisory Group:

The graphics took forever – Redman issued a system of coding because that was a big focus for the gallery, sorting out case plans and graphics and the delivery of AV content ... [we had to source] the big graphic images, the introductory panel for each story of about 120 words, label strips and then sometimes there was an intermediary level called the graphic slope. Graphics became such a big process because we had young people commenting on those ... What was surprising came from the Access Advisory Group. With each main graphic we took some examples to them to get their feedback and what they said they wanted were ones that started with a quote, something really active that grabbed you, [with] some sort of structure to it and then ended with an active question. They were quite emphatic. (Mears, 2014)



Figure 5.11: World map in South entrance space of gallery (Image: Royal Pavilion & Museums)

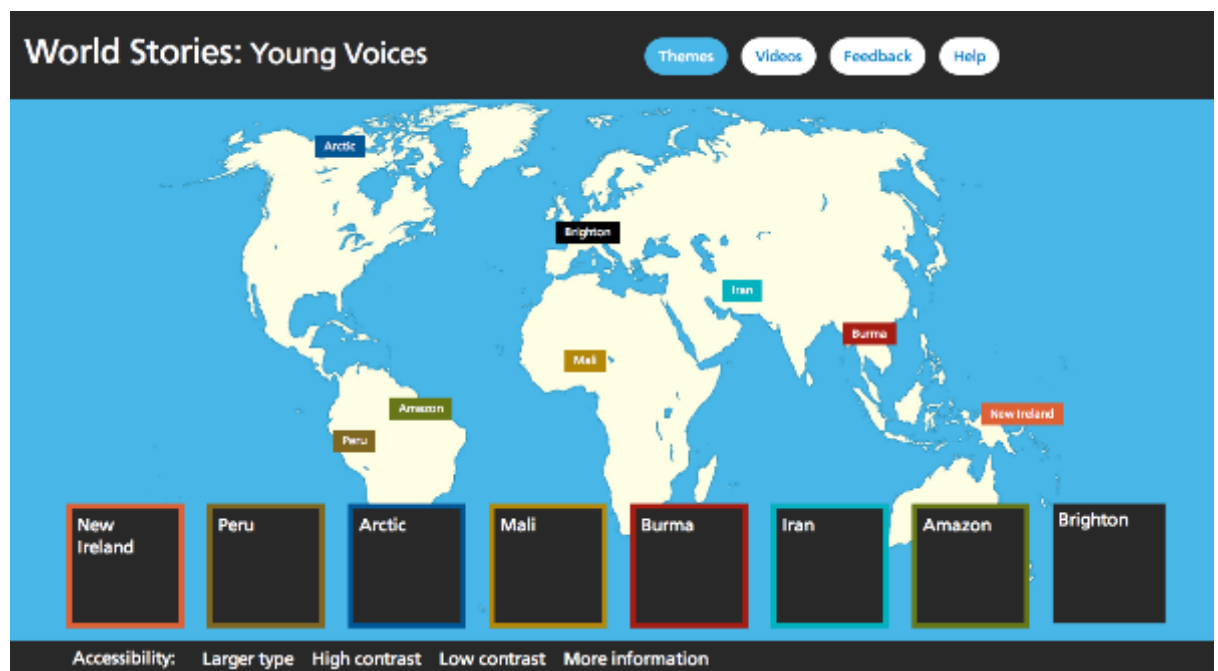


Figure 5.12: World map in media interface





Figure 5.13: Large format graphics, denoting story zones (Image: Redman Design)

Surface Impression was also responsible for producing a number of videos, to be shown in the gallery space and online. However, the source material for each video was eclectic, including footage from different cameras, both amateur and professional, shot in a variety of resolutions and needing a varying degree of editing to produce a coherent narrative that would be understandable for the gallery or online visitor. To help with this task, the company recruited Alto Films, a two-person film company based in Brighton, with previous experience of working with museums. They had a talent for cutting, resizing and sequencing the film sources to create a narrative, even if the source material seemed very fractured.

To improve accessibility for the video, it was a requirement that each film had a caption track added and BSL (British Sign Language) interpretation added. BSL translation was subcontracted by Surface Impression to specialist provider Remark!. Remark! shot their interpreters against a green screen and provided a movie clip with an “alpha channel” (transparent background) so that Alto Films could



overlay the BSL onto the main video. Captions were produced in-house by Surface Impression employee Tim Bowers, who transcribed each soundtrack and created “timed text” – a format used for adding captions to videos. This worked well online, but was not supported by the media player hardware that had been procured for the gallery. So Alto Films had to “burn in” (make part of the video) the captions through a manual process, using Bowers’ text as a source.



Figure 5.14: Still from film "Celebrating the Manau", showing captions and BSL translation

Not all films were shown in screens in the gallery space, although all were accessible through the computer kiosk. The purpose of the QR codes, that were scattered among the wall panels throughout the gallery, was to allow visitors to quickly access additional media, without leaving the vicinity of the artefacts and interpretation. Content included a young person describing an Iranian pen box, interviews with players at Brighton and Hove Albion Football Club, poetry written about the Peruvian burial artefacts and a recording of a conversation between members of an Arctic Peoples source community about traditional objects.

In order for the gallery visitor to receive the content on their smartphone or tablet, they would have to have an internet connection. However, a planned implementation of public WiFi at Brighton Museum had been held up by procurement problems at Brighton and Hove Council. Being part of a heavy Georgian structure (the elaborate former stables built by the Prince Regent, later George IV), mobile data network coverage was also very patchy (at this time most networks still only provided the “3G” connectivity standard). As the project neared completion, this factor remained an unsolved problem. After researching a number of other solutions, Surface Impression offered to buy a WiFi router, and to set up a local network within the gallery. Visitors would be able to connect to this network and access the content, but they would not be able to reach the internet (and other sites). The kiosk computer was adapted so it worked as a web server on the local network, and a modification was made to the router so that Apple devices would “believe” they were connected to the internet and so allow the media content to pass through.

Open source screen reader software was installed on the kiosk computer, and a background large format panel created to highlight its presence.



Figure 5.15: Computer kiosk with background panel denoting BSL content availability

Another media device to provide access to blind and partially sighted people to the gallery was also utilised. Produced by the RNIB (Royal National Institute of Blind People), Pen Friends are items of hardware, shaped like a large pen, and fitted with an RFID (radio frequency identity) tag reader and an MP3 audio player.

Image removed due to copyright restrictions

Figure 5.16: RNIB Pen Friend (image: RNIB)

Produced primarily for use in the home, the Pen Friend allows people to record a message, and associate it with a sticker that they then apply to something they might need to identify later (and usually often). When they want to make an identification, they touch the pen onto the sticker and the recording is played back to them. Prior to the project, some museums had been experimenting with Pen Friends as a means to deliver audio content to their blind and partially sighted visitors. These included Bristol Museums and Hove Museum (part of Royal Pavilion & Museums, Brighton & Hove).

Audio description was prepared for each story zone, containing both interpretation of the display itself and guidance to help visitors navigate around the space.

Experience of the Pen Friends at Hove Museum had shown that finding the stickers, if you were not familiar with their location, was difficult for blind and partially sighted people – even if mounted on prominent features such as posts.

To try and work around this issue, the museum team developed a thick card-based system with raised, identifiable shapes. A visitor who wanted to use the Pen Friend would be handed the device and the cards (mounted on a lanyard) and as they moved around they would touch the pen to the card to access audio. Effectively, the Pen Friend was being used as an audio delivery device, and the card as the controls.

With this project, Brighton Museum endeavoured to mediate a new gallery in a way that threads through the entire display, giving further opportunity for visitors to encounter the “Young Voices” that were so crucial to the gallery concept. As a co-curation project, the new gallery drew on several networks of contributors; various groups of young people in the Brighton & Hove area, people from the source communities connected to the objects in Brighton Museum’s ethnographic collection and the Access Advisory Group – disabled people who were consulted on many aspects of the visitor experience. The media produced followed the gallery design in being greatly influenced by the contributions of these groups, as well as the professional production team of suppliers and staff members. As such, it is an example of where the museum deliberately set out to end up with a result that had been shaped by influences outside of its own circle.

## Southend Museums

### Art trail explorer

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Southend Museums is a five venue cultural service that is part of the Culture Section of the Adult and Community Services Department, Southend on Sea, Essex Borough Council (Southend Museums, n.d.). The Art Trail Explorer is a smartphone app that was released in 2014 for Apple iOS and Android devices.

The app features works of art from the fine art collection held by the museums. The works of art selected are landscape representations of Southend and South Essex and were produced between the early 19th Century and the beginning of the 21st century. Most of the works are paintings, but there are also several engravings and a few pieces in other media. The artwork is organised into trails, some local to Southend, others further afield in South Essex. The trails can be viewed as a list, or via maps, and users can also search a listing of all pieces available in the app.

The project was managed by Clare Hunt, who was Curatorial Manager for Southend Museums at the time. In an interview with the author in 2015, Hunt described the original motivation behind the project:

For a very long time we wished to digitalize the art collection. We already had the oils done with the PCF project [Public Catalogue Foundation], but most of our collection, as with most collections, were works on paper and most [of those] we didn't have decent images of. ... Obviously the main expense for that was the photography to start with. And we wanted fine art photographers to do it, so it's of the highest

quality and can be used for whatever, whenever we need to use it. And because there was about 1500 works we realized it was very expensive to get them all digitalized. So we thought could we get them done via an Arts Council funding application. (Hunt, 2015)

However, the Arts Council was unreceptive to the idea of a digitisation project, and feedback on the original idea was, as Hunt put it: “hmm yeah, you know fair enough, but it’s not that interesting”. So the Southend Museums’ curatorial team thought about ways to revise their application in a way that was more appealing to their funder.

I said to my boss – he was applying at the time – that there might be that danger that they wanted it to be a bit more with the times. So I said to him why don’t we get it all photographed for an app which will feature some of them? But obviously with the potential to feature all of them, or we change them, or add to it – that sort of thing. (Hunt, 2015)

With the new proposal accepted and Arts Council England grant in place, Hunt went on to assemble the production team she needed. Finding an app developer was facilitated through a visit to a Museums Association event:

Well, I went to a Museums Associations conference about using social media and accessibility. Anyway it was very timely, it was about the time we were applying and I thought well I’ll go along to that and of course there were quite a few

people touting their wares who did apps and guides and all sorts of things like that, so I picked up a few of those and I'm guessing one of those was yours [Surface Impression leaflet]. And I initially chose three I thought that they looked like they specialized in heritage in general, and a little bit more artsy and I thought about the heritage direction. And I had a chat with each company to get a feel of they do – do they get what I'm trying to do, before I invited a couple of them to put together a quote for it, or what they could do for the money. (Hunt, 2015)

As part of this recruitment process, Surface Impression was contacted by telephone by Hunt in 2013. The author's notes from the call focus on client requirements and the schedule for the project, with emphasis on "photography + selection + content" as being a key production need and that outputs should be suitable for reuse on the web and on an in-gallery kiosk as well as through the app. As part of the call, it was agreed that Surface Impression would produce a proposal and submit that to Hunt by the 26th of April 2013 (Pavement, 2013).

The proposal was drawn up in due course and included a detailed description for the production process for the app. Hunt had been expressing that she was unclear about how the project would be undertaken, other than the photography phase, with which she was confident and familiar with the process.



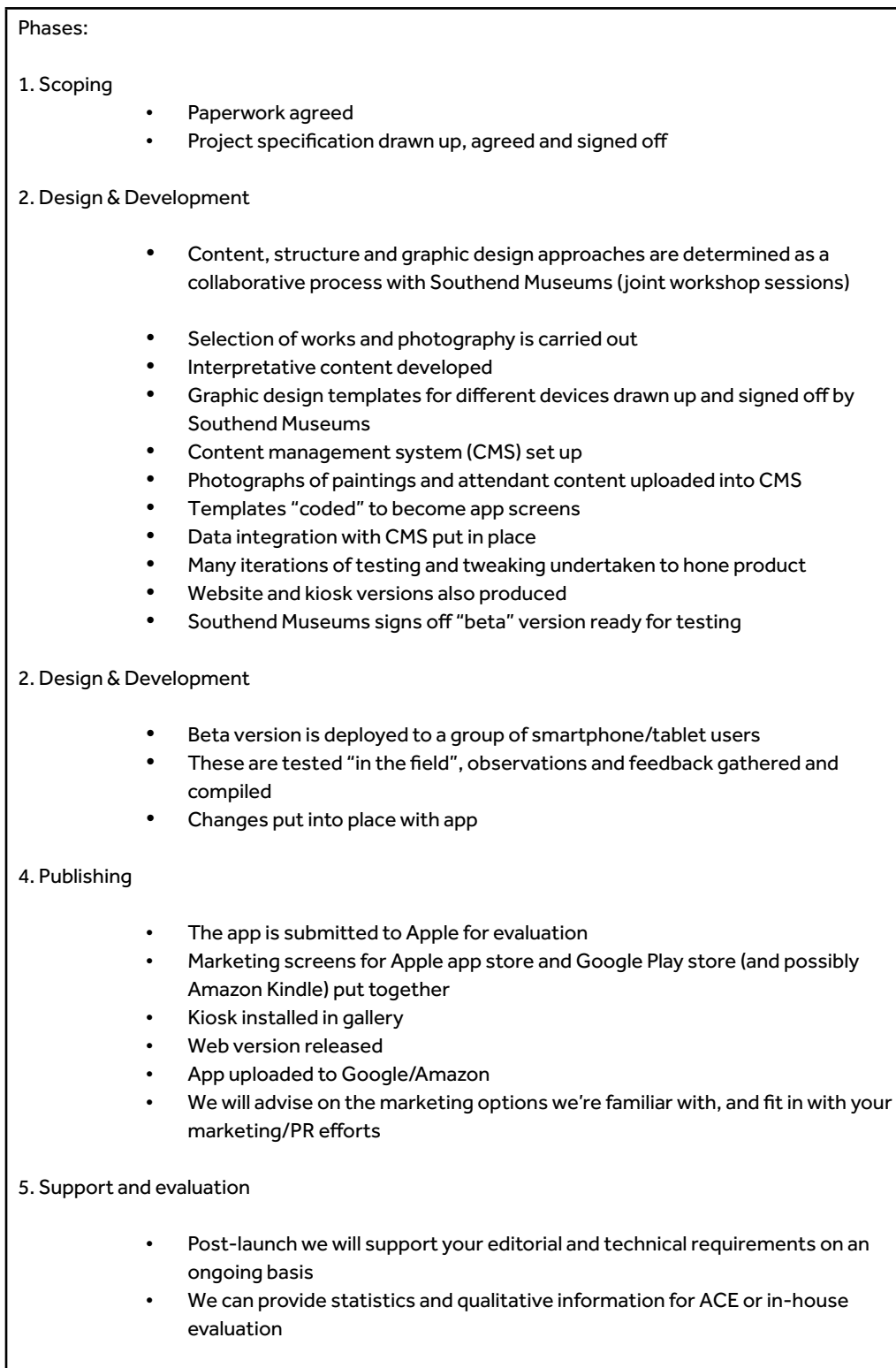


Figure 5.17: Production process for the Southend Museums app as expressed in Surface Impression proposal

Surface Impression's intent for including a detailed project plan in the proposal was to inspire confidence in a potential client that the company could manage the

project effectively – and to try to dispel anxieties that Hunt had expressed on the phone about how uncertain she was of the process. Surface Impression had also produced several art/heritage apps by this point and wanted to give Southend Museums a clear expectation of what both client and supplier would be doing. Some points in the plan were included to manage expectations, especially around how much revision would be needed as the product was developed, for example one line anticipates: “Many iterations of testing and tweaking undertaken to hone product” (Surface Impression 2013).

Meanwhile, Hunt was also recruiting photographers to digitise the art collection. Her confidence with this aspect of the project came, in part, from prior experience in working with the Public Catalogue Foundation (PCF). Founded in 2002, the PCF’s original charitable aim was to “make a photographic record of the nation’s entire collection of oil paintings in public ownership. This record was to be made accessible to the public through a series of hardback colour catalogues produced principally on a county-by-county basis”. (Public Catalogue Foundation 1, 2016). The Essex catalogue drew heavily upon the Southend Museums’ collection and even included a drawing of the Kursaal Building in Southend by artist Lucy Castle as the cover of the book (Public Catalogue Foundation 2, 2016). Southend Museums were impressed with the photographers used by the PCF and selected them for the app project, Hunt explaining the factors that came to influence this choice as being:

I felt they’d already gone through [the] quality control process, and they did a lot of work for PCF, not just in this county but all over. Based in London, they are expensive, they are the thoroughbreds of the fine art photography world.

(Hunt, 2015)

As an organisation, Southend Museums is run by Southend Borough Council and consists of five venues, the Central Museum (local history, natural history, archaeology and temporary exhibitions), Southend Planetarium, Southchurch Hall (preserved Medieval and Tudor period moated house), Prittlewell Priory (former Cluniac monastery) and the Beecroft Art Gallery. The Beecroft Art Gallery houses the fine art collection and mounts changing exhibitions from the collection and touring shows (Southend Museums, n.d.). The curatorial team at the museum service consists of a handful of staff, and during the project Hunt was promoted to Curatorial Manager. With such a small team, and as the originator of the project idea, Hunt ended up managing the project almost entirely alone, adapting to the production process and fitting it in around her other work. However, some procedural aspects of the relationship with the council as a whole were overlooked:

I did find out afterwards [and] I got a slap on the wrist, because of it. I should of gone to IT [Information Technology department at the Council], spoken to them about an app being produced under the name Southend Council, and got their approval for it. Because anything that goes out in the world that has Southend Council on it needs to be approved by Southend Borough Council. So I did that in retrospect and they were happy with it. I think usually as long as the brand is on it they are happy. If it's something a bit more controversial then – “these are not the views of Southend Council” etc. So yeah I was told in retrospect I should have done that. It's just a process that I hadn't been aware of. (Hunt 2015)

Hunt and the author first met for the project in Southend in May 2013. Photography of the collection was already underway at the Beecroft (both displayed artworks and items in storage were housed at the same venue). Notes from the meeting show that thoughts were centred on the locations that the art collection represented and attempts were made to quantify the component parts of the project – for example “30 – 40 locations approx”, “Churches – pic of every church in Essex (early 20th C) including interiors” and “Landmarks – Iconic buildings and views. Hadleigh Castle, Royal Terr, Southend Pier, museum buildings” (Pavement, 2013). Sketches were also drawn to explore the potential user interface of the app.

The creative proposal for the app was to locate selected artwork in the places they were painted / drawn, making use of the mapping and geolocation functions of smartphones. It was envisioned that the user would go to the locations depicted, and be able to appreciate the artist’s eye and the historical changes that had taken place between the time of creation of the artwork and the present day.

This concept presented a logistical problem in the locating of the artworks – first the place depicted needed to be found, and then its location recorded as latitude and longitude. This location data was proposed to be entered into the content management system that the app would use as the source for its content.

The solution hit upon by Hunt was to buy a camera that automatically recorded the latitude and longitude of every shot taken. She then marked up print outs of web-based maps (Google maps) with the estimated locations of each of the paintings or drawings. She then embarked on a series of forays into South Essex and Southend to find the viewpoint of each artwork and to take a photo of that location.

Concurrently, the Surface Impression team was drawing up its first designs of the app. These took form of “wireframes” – black and white schematic layouts to represent the user interface (UI) of the app, prepared to show the client (Southend Museums) how the component parts of the UI would relate to each other and to set the scope for content structure and expected length. The wireframes were roughed out in pencil on paper by the author, but drawn up into neater, clean line images (using Google Drive’s Drawings feature) by Tim Bowers, a colleague at Surface Impression.

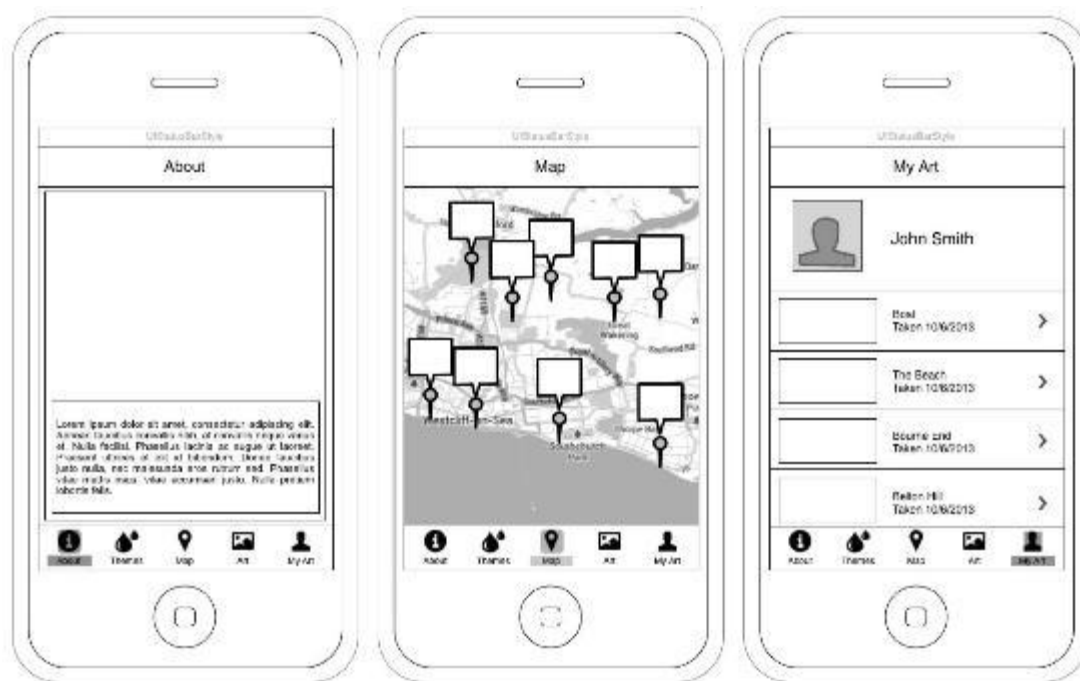


Figure 5.18: Wireframe designs for the Southend Museums app

The reason that such pared down, diagrammatic designs are used to communicate ideas to clients is that they avoid discussions about colour, typeface, branding, imagery and other details that can be a distraction at the early stages in the creative process. The interactive developer is seeking a means to gain a “sign off” from the client for the general approach to the UI, without delaying the project with more


subjective, aesthetic discussions. If changes are requested at this stage, they are easier and faster to make, so there is less risk of delays in the project schedule.

Following discussion of the wireframes and acceptance of their approach by Hunt, “flat” designs were also produced. Flat designs go further than wireframes in that they do represent the aesthetic and the specific use of colour, typeface, iconography, imagery and content.



Figure 5.20: “Flat” artwork representing a painting in the Southend app

Hunt submitted her first content draft to Surface Impression in July 2013. This took the form of a Word document containing a table of titles, images, catalogue reference codes and descriptions (Figure 5.21).

|     |                         |   |      |   |
|-----|-------------------------|---|------|---|
| 1.5 | Chalkwell,<br>Crowstone |  | S585 | <p><b>Charles Pears</b><br/> <b>Crowstone Light ()</b><br/> <b>London Transport Poster</b></p> <p>The Crowstone marks the place in the estuary where Corporation of London jurisdiction begins and was originally associated with fishing rights. The stones were marked with the names of the Lord Mayors of London but when space ran out on the smaller, 18<sup>th</sup> century, stone, a new one was erected. At the time of this poster both Crowstones remained, the original one which is now in Priory Park, and the new one which remains in place.</p> |
|-----|-------------------------|---|------|---|

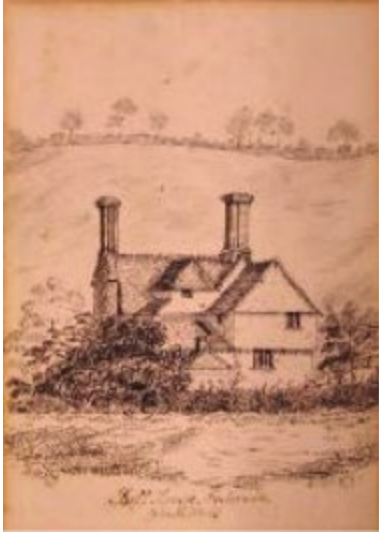

|      |                        |   |       |  |
|------|------------------------|---|-------|--|
| 2. 6 | Eastwood, The<br>Bell  |   | TS708 | <p><b>Artist Unknown</b><br/> <b>Bell House Farm,</b><br/> <b>Eastwood</b><br/> <b>Pen and ink drawing</b></p> <p>Now the Bellhouse pub, this picture shows the building as a farmhouse in countryside. It is thought to date from the 16<sup>th</sup> century when it was built as a hunting lodge.</p> |
| 3. 7 | Great Waking<br>Church |  | TS633 | <p><b>D H Burles</b><br/> <b>Little Waking Church</b><br/> <b>(Parish Church of St Mary), August 1932</b><br/> <b>Watercolour</b></p> <p>Burles painted dozens of churches in Essex in order to give thanks for surviving the First World War.</p>   |

Figure 5.21: Excerpt from draft content document (Hunt, 2013)

The Surface Impression team analysed the content and created a database table in the content management system (CMS) for the app to contain the identified elements. The CMS table needed to separate the content into its component fields, which, when loaded into the app would allow for consistent and easy to manage templates for the display of artwork. In the table of content provided, location, catalogue reference and image were separated from each other, but the “content” column had to be broken down further – into artist, title of work, year, medium and description. This work was carried out by Bowers as he cut and pasted content from



this (and subsequent Word documents) into the CMS.

Throughout July and August Hunt sent over content and photographs in batches. The photographs consisted of the artwork reproductions and Hunt's own location photographs. The original creative concept of the app had planned for a "live view" in the app, where users would be able to look through their phone's screen with the artwork overlaid over it. This would allow them to compare the current scene with the artwork.



Figure 5.22: Reproduction of engraving "Nelson Terrace & Scratton Road, Cliff Town, Southend" by JT Wood (publishers), c.1860



Figure 5.23: Hunt's photograph of Nelson Terrace, 2013

With Hunt's geolocation photographs, a creative opportunity was recognised – as well as the live view, the new photographs could also be incorporated into the app to allow “armchair” users to compare old and new at each of the locations. A new interface element was added – a “slider” component to allow users to vary the opacity of the artwork, revealing the image below (Figure 5.24).

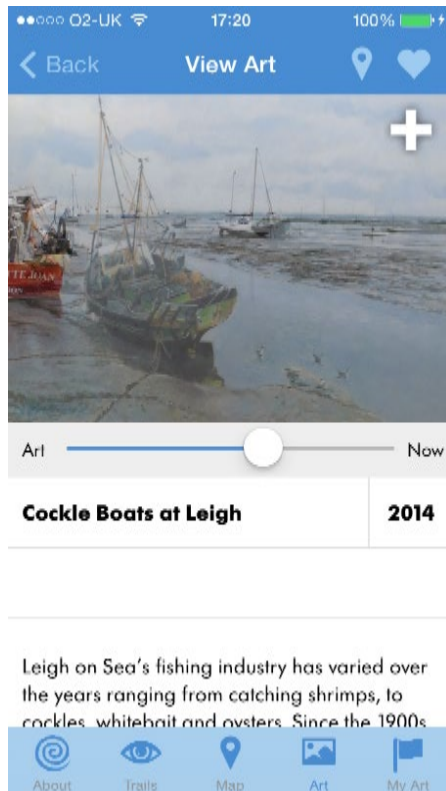


Figure 5.24: “Then and Now” feature of the app – sliding the control left and right varies the opacity of the artwork, allowing users to compare painting and current scene.

This new feature was well received by both client and team, but quality of the experience varied a lot, depending on the closeness of the alignment between artwork and photograph. Therefore it was decided that Bowers would process all of the photographs, cropping them so that horizons and key features in the images would align as closely as possible.

During the course of 2013, two significant changes that were to impact the project became apparent. The first was that Apple was preparing to release a major update to their smartphone operating system “iOS” and that this version (v. 7.0) would include a redesign of almost all user interface elements. The second change was the relocation of the Beecroft Art Gallery. The original building, located in the Westcliffe-on-Sea suburb of Southend, had been donated to the town in 1952 by

Walter Beecroft, along with his collection of artworks. By 2013, the structure of the Edwardian Building had become very difficult to maintain, and relied on external supports to remain standing. Southend Borough Council took the decision to move the gallery, choosing as a new venue the recently vacated Central Library building (that had been replaced by a newer library building). This meant that the art gallery would be closed at the time of the originally planned launch of the app and that there would be a period of disruption while the gallery's contents were decanted to storage and then moved, and rehung, in the new building.

Apple's design update for iOS7 introduced a new design approach – colour gradients and shadows were removed from background elements, and graphic elements and text became “flatter”. Standard typefaces were changed to “Light” or “Thin” versions and new transparency effects were introduced. The update revised almost every element of the user interface and the Surface Impression team decided that the current designs for the Southend Museums app had to be updated to the new look, otherwise they would be “out of date” as soon as they were released.

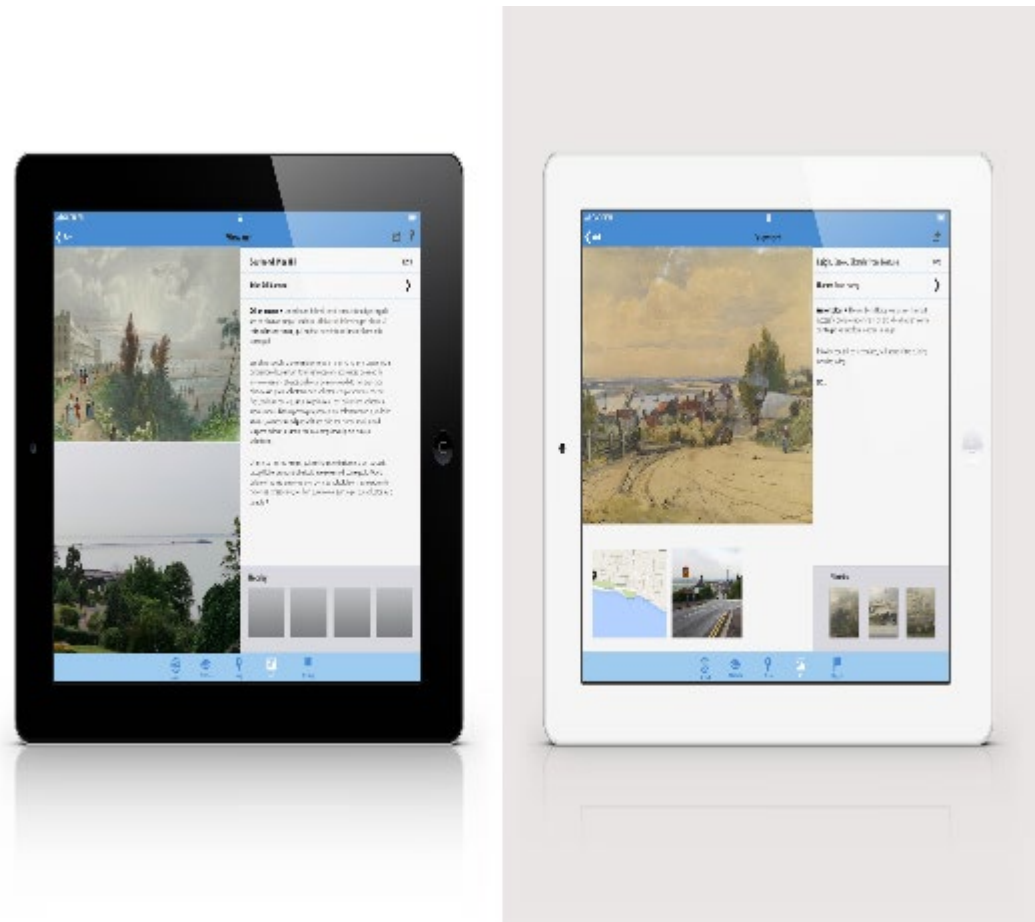


Figure 5.25: Updated (iPad) design for iOS7 for the Southend Museums app

At this point of design revision, the opportunity was also taken to introduce colours from Southend Museums branding into more of the user interface. Backgrounds to the bottom tab bar and top toolbar used the shades of blue used by the museum service. Futura, the brand compliant typeface for Southend Museums was used throughout, rather than the default Helvetica typeface standard with iOS. This avoided complications with the iOS7 update, where font weights and spacing shifted inconsistently from previous implementations.

Concurrent to this work, the app “software” was being developed. Surface Impression was using Appcelerator Titanium as the development “platform” for the work. Appcelerator Titanium provides a framework by which apps for both Apple

(iOS) and Android devices can be deployed from the same code. The code itself is written in javascript, a language with widespread adoption by developers and well known to the developer staff at Surface Impression. When published, however, the code is converted to the languages appropriate for the device – Objective C (Apple) and Java (Android). But all assets (images, fonts, content etc.) remain the same for each platform.

Surface Impression staff member Alex Peckham undertook most of the code development for the app, working in Appcelerator using Javascript. During 2013, Appcelerator released several versions of its Titanium platform, and was promoting a new approach to development packaged under the brand name “Alloy” (Appcelerator, 2013). Alloy is a method by which apps can be developed using a MVC (Model View Controller) conceptual architecture. MVC is a technique that is well established among software developers of all kinds, and advocates the separation of data (or content) – the Model, display – the View, and the logic of interaction and interpretations – the Controller. Peckham embarked on a project to standardise Surface Impression apps to an MVC architecture using the new Appcelerator tools. This entailed a significant rewrite and reorganisation of previous code that had been created previously, Peckham justifying the investment as being a means to reduce time debugging applications:

“I feel a lot of the time things are slowing down because of bugs, especially as many of these tend to appear and need to be fixed in multiple projects. It is also often the case that things which work correctly in the simulator do not work on the actual device, or do not work cross-platform. Even fixing a relatively minor bug can be slow because it takes a couple



of minutes each time I deploy the app to the phone and if I have to do that five or ten times to test that my bug is fixed – well that time soon adds up.” (Peckham, 2013)

By November 2013, the app was developed enough to be able to run a prototype, and, as had been planned, the next step was to run a user test of the app with a group of participants. By this time, the Beecroft gallery had been closed. A call for participants was put out to Southend Museums’ followers on Facebook, offering £20 and some free cake as an incentive.

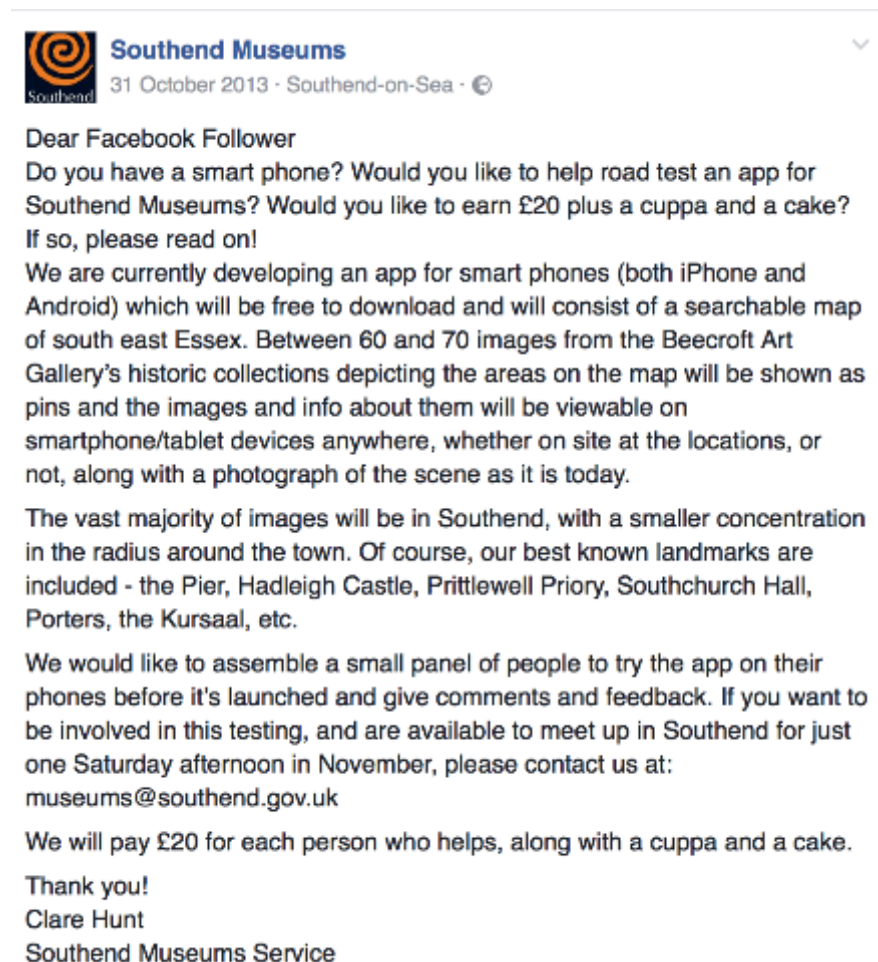


Figure 5.26: Facebook post used to recruit participants to the user test. (Southend Museums Facebook page, 2013)

Surface Impression employees Shelley Boden (project manager) and Peter Annhernu (the director and author of this thesis) travelled up to Southend on Saturday 23rd November and met with Hunt at a central café, close to the “Coastal Walks” trail of art found in the app. The participants arrived shortly afterwards and some time was spent installing the app onto the smartphones and tablets they had brought with them. They were then split into groups, and began to use the app by following the trails, accompanied by a team member who recorded reactions and observed activities.

Boden has significant experience in usability and accessibility testing, and had agreed to undertake interviews with the participants and to summarize their responses in a report. She summarised the objectives of the test to be:

“Overall we wanted to find out how easy to use the app was and whether the content and navigation made sense. In general we wanted to capture each participants’:

- First impressions
- Strategy taken to perform each task
- Problems encountered
- Thoughts when tackling each task
- Impressions after using the app” (Boden, 2013)

The table below (Figure 5.27) shows an excerpt of questions and answers given for the “General” section of the report.



| QUESTION   |  |
|--|--|
| 1. For what reasons would you personally use the Southend Museums app? | <ul style="list-style-type: none"> <li>• To look at the paintings and photos.</li> <li>• I would use it – probably the longer trail (on my bike) – and would use it if I had a sense of discovering something and some facts that otherwise unknown.</li> <li>• Find out about history, find out how to do the walks as there aren't any guided ones in Southend I know about (rather than buying a guide).</li> </ul>   |
| 2. What are your general impressions after using the app?              | <ul style="list-style-type: none"> <li>• Interesting.</li> <li>• If new to Southend it would be a good central city tour.</li> <li>• Whole thing is really good, I like the use of new photos compared with old.</li> <li>• Really good. Interesting and good for a day out (for any topic).</li> <li>• The map was easy to use – although I do know Southend well – and I think showing the trail on the map (e.g. as a red line) would be helpful if you didn't know the area.</li> </ul>  |
| 3. What is your overall response to the app design and navigation?     | <ul style="list-style-type: none"> <li>• Good for tourists.</li> <li>• Easy enough – if get lost I can always get back.</li> <li>• On Android you can't tap the map to place your current position on it.</li> </ul>   |
| 4. What is your overall response to the app content and organisation?  | <ul style="list-style-type: none"> <li>• Good.</li> <li>• There's a good amount of content about each stop – would like an option to read more.</li> <li>• I liked the paragraph or so on each stopping point and I found this interesting and I wanted more.</li> <li>• Think about the titles of the paintings and how they reflect the stops, e.g. the stop called Electric Chair is actually called the Cliff Lift in situ – present both.</li> <li>• I did have a bit of trouble in the art section in the screen which one id referred to, using the slider to see the art and then the photograph. However we clicked to the other screen showing the art and the photograph I had no problems.</li> <li>• I had some problems with images – e.g. on Cliff Lift the picture is cut off in landscape (and when return to the entry it's wobbly, won't hook into position).</li> <li>• They'll need to update content frequently to keep it fresh – otherwise you'll get to the end of the content quickly if there are only 4 trails.</li> </ul> |

|                                      |  |
|--------------------------------------|--|
| 5. How easy was the app to navigate? | <ul style="list-style-type: none"> <li>• Okay</li> <li>• Easy.</li> <li>• Maps were easy.</li> <li>• Switch between map and art worked well.</li> </ul>  |
| 6. How could the app be improved?    | <ul style="list-style-type: none"> <li>• Adding some directions.</li> <li>• Improved orientation – I'd prefer to have a start and end to the trail and numbered stops along the way so you know what to do/where to go.</li> <li>• Add named trails marked on the map.</li> <li>• Enable user to centre the map.</li> <li>• Add extra info/interesting facts, e.g. blue plaque info to look at along the way.</li> <li>• Add extra info to supplement modern images, e.g. zoomed in details of Regency buildings.</li> <li>• Make it less battery intensive – my phone died mid-trail.</li> <li>• Trail needs map notification.</li> <li>• Possibly add the modern photo first? This would help you know where you are.</li> <li>• Make the sliding toggle functionality more obvious.</li> <li>• Not sure all map locations are correct (Cliff lift lat/longs bit out?)</li> <li>• Images seem to get cut off on some screen sizes.</li> <li>• Add instructions.</li> <li>• Want to see other people's input. Fascinating facts/did you know.</li> <li>• I don't think there is enough media coverage of arts events in Southend and if the app also had a section on this (e.g. what's on at the Focus Gallery, the Beecroft gallery etc) this would be useful and may encourage people to visit/join in these events.</li> <li>• A quiz on the app would be fun.</li> </ul> |

Figure 5.27: Excerpt from user testing report – participant responses (Boden 2013)

Following the test, a list of actions to improve the app's design, functionality and content was drawn up. In particular, it was determined that the Android version of the app was not performing in the same way as the iOS version. Maps were behaving in a different way, with less reliability and interaction than their iOS equivalent.

Development on the app's code in Titanium continued from this point for another eight months, at varying levels of intensity. During this time, the Beecroft Art Gallery was moving to its new venue at the old Central Library of Southend. Hunt took a curatorial decision to focus the first exhibition at the new gallery on the selection of works chosen for the app:

But in that time [of the closure of the gallery] there was the chance to think, 'well you know, what's the first permanent exhibition going to be?' It made sense that it could be the pictures on the app, (and saves me to have to think about having another theme to display). You know you've got it there. (Hunt, 2015)

To bring the new exhibition and the new app together, two iPads were purchased, and mounted in secure frames to a table in the gallery space. The app was installed on the iPads and simultaneously published to the Apple App Store and to Google Play. Promotion of the app was mainly via social media, but also benefitted from local publicity about the new opening:

Yeah well we've got quite an active social media, that went out. It's gone out a few times to remind people. We did have some press but because the gallery was opening, as well at the same time, it kind of got a bit sucked into that story – the gallery. And then usually there was a sentence or two about the app in there too. (Hunt, 2015)

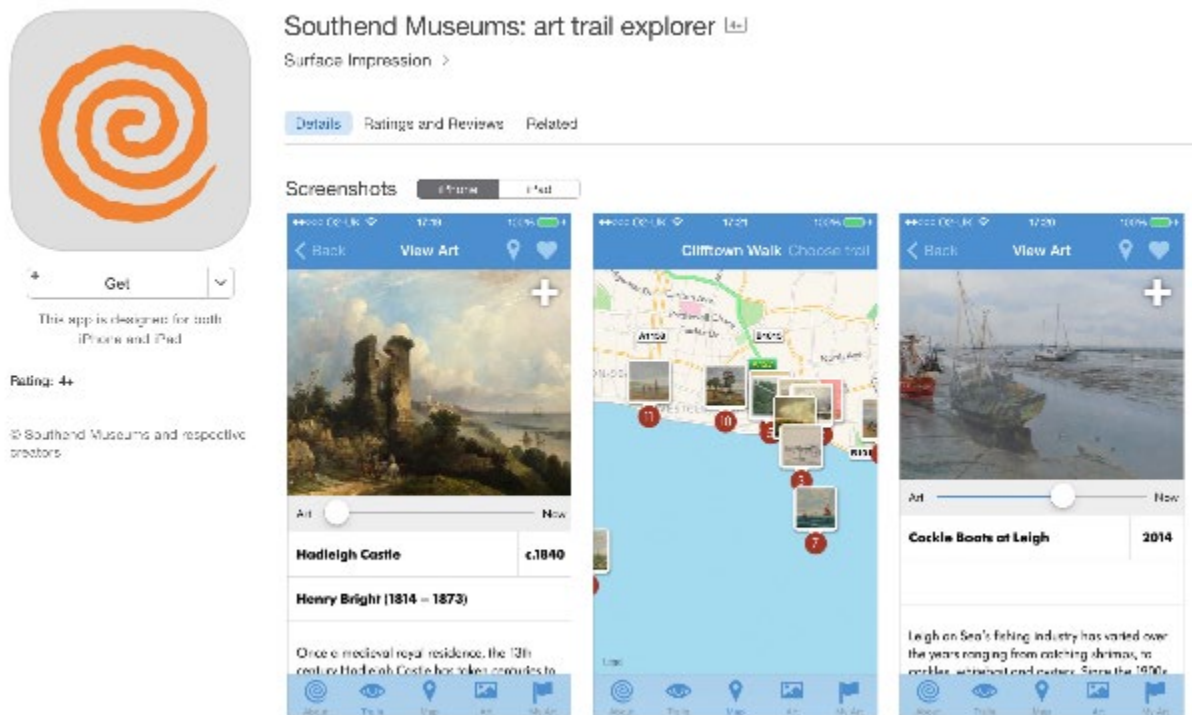


Figure 5.28: Apple App store listing for Southend Museums: Art trail explorer app

The Southend Museums project is a perfect example of how far a media production project can be diverted from the original vision. From an initial idea to photograph the Beecroft Art Gallery's fine art collection, the scope of the project widened again and again, producing an app and ultimately launching the Beecroft in a new building. At each turn, the influence of other entities stretched and changed the goals of the museum, modifying the original vision far beyond the point of recognition.

## British Museum

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Following on from the success of the *A History of the World in 100 Objects* project of 2010, the British Museum adopted a “transmedia” approach to their 2013 and 2014 exhibitions, *Life and Death in Pompeii and Herculaneum* (Pompeii) and *Vikings, Life and Legend* (Vikings) respectively. They broke new ground for the museum in being represented with live cinema releases (rather than the BBC radio broadcast of *100 Objects*), that were timed to coincide with their launches. In these events, audience members visited cinemas in their own locality (including outside of the UK) where they watched a live broadcast from the museum that explored different aspects of the exhibitions through interviews, close ups of objects, historical reconstructions and factual presentations. Pompeii was also accompanied by a smartphone app, available through the Android and iOS app stores, with separate versions for phones and tablets (at different price points). Alongside these media items, books, social media and bespoke web pages were also deployed. Vikings was the first exhibition to occupy the Sainsbury Exhibition Centre in the museum’s new extension, that was completed in 2014.

Interviewed for this case study were Matthew Cock, then head of web at the British Museum and Patricia Wheatley, head of Broadcasting at the institution.

The external suppliers to the project included Apadmi, app developer; Event Cinema, live broadcast promoters; cinema chains; exhibition designers; film makers, outside broadcast crew and equipment suppliers; historians; television presenters and a chef. Publishing was handled by the museum’s own British Museum Press and the website sections by the web team, with contributions from Nottingham University.

Funding for Vikings came from BP, with support for its live cinema event also specifically attributed to BP. Pompeii was supported by Goldman Sachs.

The museum was experimenting with live cinema as part of a wave of similar offerings by cultural organisations. The trend was led by the performing arts, with theatrical productions from the National Theatre and opera from English National Opera. These, and other cultural organizations were inspired by the opportunity to reach wider and more dispersed audiences (domestically and internationally) at the same time as building recognition and reputation of their cultural “brand” (Arts Council, 2015). Cinemas, conversely, were motivated by more localised opportunities – that they could charge more for a “special” event and that they could sell more tickets during off-peak times (ibid).

At the British Museum, the idea of using live cinema was proposed for their Shakespeare: Staging the World events in 2012, but difficulties in logistics and the fact that the programme was tied in with the London Olympics of that year prompted implementation to be delayed. During planning of the Pompeii exhibition, the topic was anticipated to be very popular and the exhibition oversubscribed – so the opportunity of live cinema was taken up again. (Wheatley, 2015)

The Museum did not dive into the project without audience research:

Tim Plymming, ... commissioned a survey which I’m really glad he did. We got 900 respondents and it told us a lot

about the live cinema broadcast. So there was a skew in the audience; sort of middle aged, female, southern. Because it was Pompeii I could see a conversation Bethany Hughes and Rachael de Thame in the Painted Garden would go down very well with that sort of listener. (Wheatley, 2015)

This vision of the recognisable presenter being a key attractor to the project carried through to the promotional descriptions sent out to the cinema chains and distributors.

Introduced by British Museum Director Neil MacGregor and presented by the celebrated broadcasting historians Michael Wood and Bettany Hughes, the exhibition is brought to life by curator Gareth Williams, alongside experts on Viking ships and swords, burial and beliefs, language and legacy. With demonstrations, stunning close-up photography of the Viking objects in the exhibition and a torch-lit burial staged in the grounds of the museum. (More2Screen, 2014)

Creatively, the ambition was to create a “private view” through the cinema event:

“We realised the best way to experience the exhibition was to have a ‘private guided tour’ in the presence of experts able to bring the objects to life through the stories they tell. This ‘private tour’ experience is of course not one that we can offer every visitor to the Museum but through a special event such as Pompeii Live we can, for one night and using

the power of live satellite broadcasting, bring that experience directly into cinemas across the UK.” (Plyming, 2013)

The production of *A History of the World in 100 Objects* gave the British Museum valuable experience in broadcasting, but most of the production staff required for this came from their collaboration with the BBC, although some of those had been “seconded” to the museum (Wheatley, 2015). But as the British Museum’s ambitions grew, and the event cinema project became more real (with plans for both a general event and one aimed at school children), staffing and suppliers had to be dealt with:

We did a tender process for the international distributor, we became our own distributor (using a consultant), so that was quite a lot of work. We did our own marketing, so we brought a marketing assistant in, and then there was a core team of producer director for the children’s show. Multi-camera, producer, director executive producer for the grown up one, who then also oversaw the children’s one. So John Rooney was with us for almost a year doing both, and then a head of production who managed all the logistics and the budget and the finance, paying people contracts etc., and there was an assistant producer who would run around helping and would help research scripts. Four freelance people who were taken on for a considerable length of time, myself and my assistant pulled into that too, and beyond that the crew, production, technical people with outside broadcasters. You can imagine a huge truck, there’s a satellite truck, there’s another truck with cables, there’s cameras all



plugged in and satellite broadcasts. Its incredibility tech heavy  
and of course that brings its own team, that's huge. (Wheatley,  
2015)

Image removed due to copyright restrictions

Image removed due to copyright restrictions

Figures 5.29 & 5.30. Outside broadcast truck at the museum (above) and its control room

(below)

Although billed as “live”, the programme of the cinema broadcasts was controlled and contained a mixture of pre-recorded and live elements:

“It’s live but in the same way *Strictly Come Dancing* is live, it has a structure, it has been rehearsed. About 50% of it has been pre-recorded, so you’ve got a mixture of people, and the presenters, standing in the exhibition. Now some of that was filmed live, some of that was not filmed live actually because it was difficult for the exhibition space. Some of those spaces were very tight and you couldn’t film people easily without getting sound equipment, the lighting, all the things in the shot. So those were done before hand where you had more time and could do things to avoid some of that. And the other bits were reasonably well rehearsed.” (Cock, 2015)

Image removed due to copyright restrictions

Figure 5.31. The presenters of the Pompeii Live broadcast, in the gallery space

Image removed due to copyright restrictions

Figure 5.32. Scenes from the childrens' broadcast

Accompanying the cinema event was a concerted effort by the museum's web team to raise interest in the exhibition and the broadcasts. Social media was used to create a "buzz" around the topic and the team came up with a creative angle to their social media posts:

Because Pompeii and Herculaneum is about a thing exploding you can kind of use that as a countdown so what we pretended was that the day of this live cinema was the day of the explosion. And actually because the explosion, the moment when the whole thing started erupting till the end was like 48 hours, actually in the 48 hours before the live cinema broadcast we did a countdown including on Twitter – we'd say this is 12 o'clock and this happened the lava reached here, the temperature would have been this, and the plume

would of been this. So we did lots of countdown things and we produced an online timeline that we built up during that time.” (Cock, 2015)

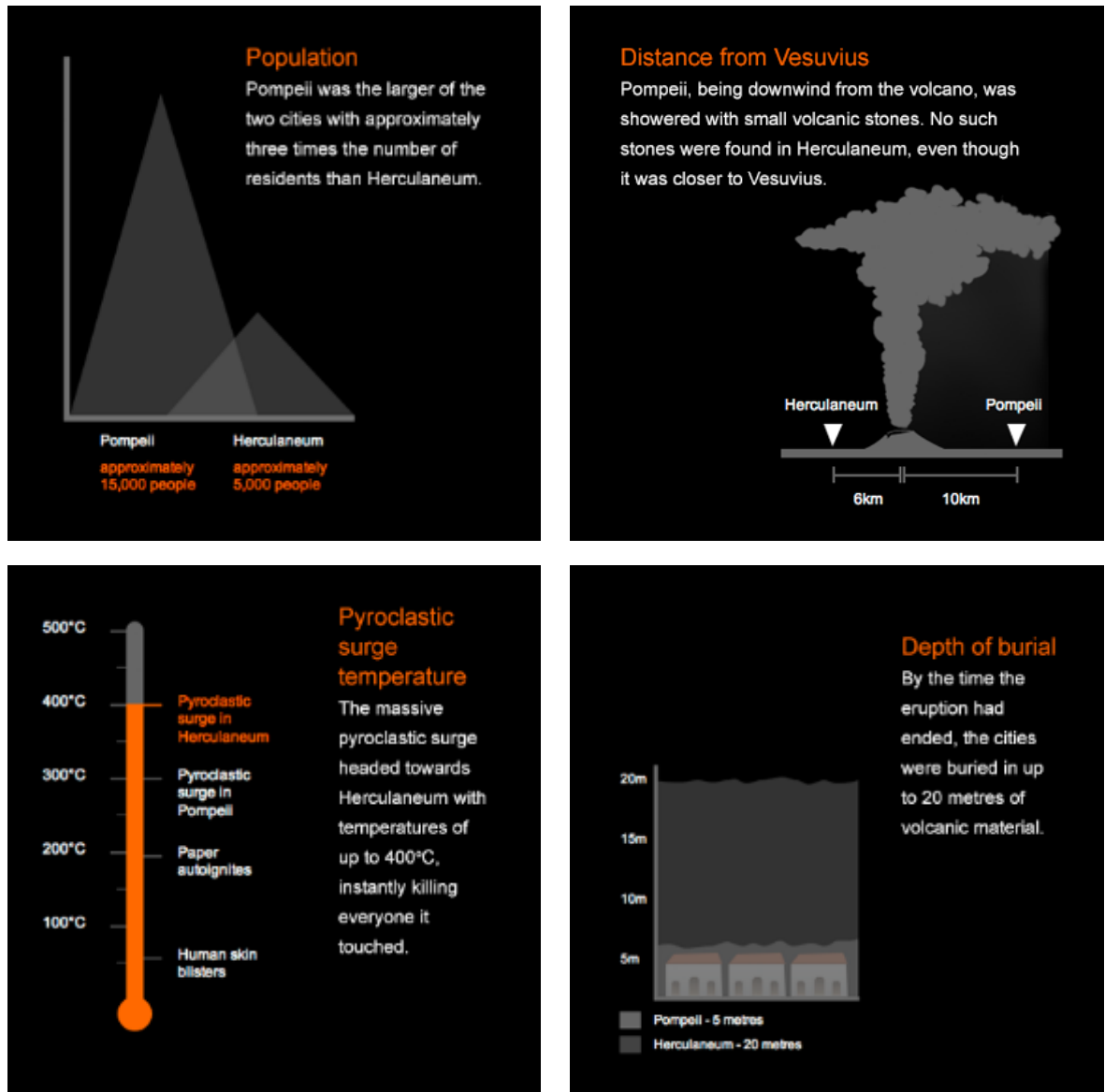


Figure 5.33. Graphic panels shared through social media during “countdown”

As with *A History of the World in 100 Objects*, the Pompeii transmedia production was

accompanied by a book, but in this case the book was published by the museum's own British Museum Press rather than by a trade publisher. Nevertheless, the book sold over 40,000 copies (British Museum Annual Report, 2014). Book production also played a key role in overall media production, as it had the longest lead time and so undertook the earliest content work – thereby also creating a repository of material:

Because the publishing team has been in our department for a couple of years, and because they need the longest lead time on things because they need to get the book out, they're often the ones who will do that initial image gathering, and I often find myself going to them and saying 'can I get this image', or 'that image', or 'give me all the images'. And that very much happened with Pompeii. (Cock, 2015)

However, images sourced by the book production process did not necessarily come with image copyright clearance, as the agreements made with copyright holders are tied to specific uses (e.g. book, exhibition graphics etc.). The museum would have to return to the rights holder and negotiate for different media channels (e.g. app, cinema broadcast etc.). (Cock, 2015).

For Pompeii, alongside the exhibition, cinema broadcasts, book and web-based media, the museum decided to publish an app, in smartphone and tablet versions.

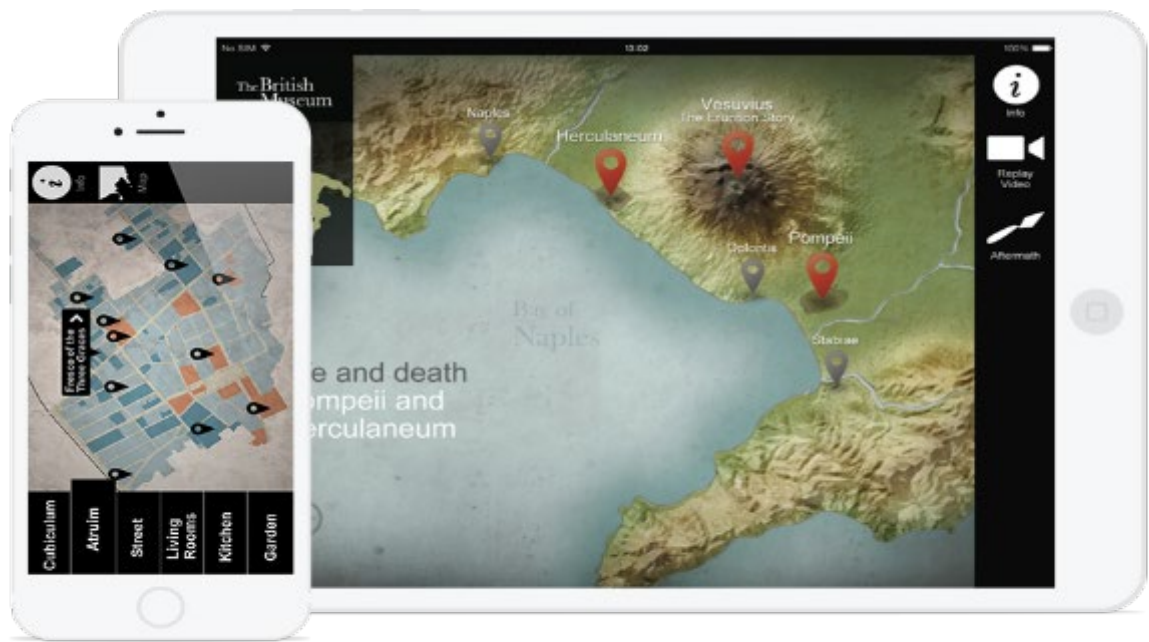


Figure 5.34: screens from the smartphone app for Life and Death in Pompeii and Herculaneum (Images: British Museum and Apadmi)

Using interactive maps of the region surrounding Vesuvius and a timeline of the eruption as the main interfaces to the content, app users could delve into objects and explore the themes of the exhibition. Video interviews with the curator and guest experts (including Mary Beard, Professor of Classics, Andrew Wallace-Hadrill, Director of Research, both at the University of Cambridge, and Amanda Claridge, Professor of Roman Archaeology at Royal Holloway) accompanied the material and were exclusive to the app itself (British Museum, 2013).

App production was outsourced to a specialist supplier:

We didn't produce it in house, we did a very speedy tender and awarded it to a company called Apadmi, based in Manchester. And they'd done a few apps including, I think, one for the BBC, well they'd rebuilt BBC's radio player app in Android. So they were very solid technically and one of the reasons we accepted them was they were highly recommended doing things quickly and robustly, good engineers. We went to them with quite a polished idea of what we wanted based on the idea of two things: one is a map you know here are the cities here are the street plans of the cities, and the timeline idea as well. (Cock, 2015)

Apadmi had a very short amount of time in which to produce the app, and spend an "intensive two weeks" at the museum and back at their offices in Manchester. They produced their own visuals for the app, but collaborated closely with a member of the web team – "he had a lot of creative input and actually for the period of the development he was almost full time working on it, gathering all the images, giving a lot of creative input" (ibid). The museum and Apadmi also brought in another company to produce a soundscape for the app, as they realised it would otherwise be a silent experience:

They did four days work to do this kind of soundscape, sounds of people dying, the chatter in the streets. Very much atmospheric. And there was a bit of voiceover. The voiceover

which we didn't have to write the script for that as we were using Pliny the Elders eyewitness account. We just edited bits of that and they recorded that voiceover and that was timed in with the different periods of the day (Cock, 2015).

With a content-rich presentation, an issue arose as to how to maintain a high quality presentation, but not introduce delays into the user experience as people waited to download the app content. Apadmi technical consultant Ian Joyner outlined the challenge:

The level of detail required meant that the files sizes were larger than average and this did present a challenge – the app has the highest level of embedded content that we have ever produced. Despite this, we were able to maintain the quality while keeping the app to a single Wi-Fi download. We were also sensitive to maintaining the balance between our creativity and the need to present something with the credibility and academic rigour expected from a British Museum product. (Joyner, 2013)

Any app release for Apple's iOS or Android will have a listing on the Apple App Store or Google Play, but the visibility of this to smartphone users is small, with each app lost in a sea of millions of competitors. Other than marketing that an app publisher can do outside of the app stores (website, advertising, social media etc), the best chance for attention for a particular release is to be featured on an App Store category screen, or better still, on the home screen of the store. Luckily for the British Museum, they gained a personal contact with Apple:



A period before we produced the App, Apple got in touch with us, and I met a guy. Apple kind of have an engineer evangelist for lots of different areas and they go and meet people, they actively seek out what they call ‘list brands’. And so they say ‘you should be on the App store, is there anything we can do? Just let me know’. There’s not one person responsible for museums but it’s his second thing. He does healthcare but that’s massive and museums are probably just 2% of his time. He got in touch and I said ‘we’re producing an App and it’s going to be released for approval on roughly this day’ and he said ‘we will keep an eye out for it’. And actually because they normally say two weeks, [for an app to be approved in the App Store publishing process] actually it can be longer – but they did it in the same day. (Cock, 2015)

Although already experienced in the management of transmedia projects, following the very successful *A History of the World in 100 Objects* (and its subsequent iterations), the decision to expand British Museum “channels” to live event cinema took the museum to another level of production intensity altogether, productions that they self-managed, rather than collaborating with the BBC as a partner as with *100 Objects*. By adding live event cinema and continuing with a transmedia approach, particularly with Pompeii, the British Museum was able to coordinate audience engagement and amplify reach considerably, but were forced to focus all of these activities onto just a few days – a monumental feat of management and individual effort.

## Cooper Hewitt, Smithsonian Design Museum

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The Cooper Hewitt museum was founded in 1897 by Sarah and Eleanor Hewitt with the aim to be “a practical working laboratory” for students and designers; a museum and collection that was “for anyone who wanted to use it as a place to work and learn” (Cooper Hewitt, n.d.).

The Smithsonian Institution acquired the collection of the Cooper Hewitt in the 1967 and moved the museum to the former Carnegie residence in New York City, where it opened to the public in 1976 (Cooper Hewitt, n.d.).

At the end of the 2000s, the Smithsonian was recruiting for a new director to lead the museum through a regeneration. They eventually settled on Bill Moggridge, a designer of repute, but little museum experience. Moggridge was credited with the invention of the first “clamshell” laptop, used by NASA in 1992 (Computer History, n.d.), was director of design company Ideo in 1991 (Ideo, n.d.) and had won the Cooper-Hewitt’s National Design Award for Lifetime Achievement in 2009 (Lustig, 2011). Richard Kurin, the undersecretary for history, art and culture at the Smithsonian expressed the programme for the new director as one of mediatisation, stating:

Museums originally were founded as 19th-century institutions. Well, now we exist in a different kind of world. A hundred-thousand people came to an exhibit? Well, a hundred-thousand people watching a TV program is very little. A hundred-thousand people watching a YouTube video is puny! And so I think the idea is, How do we take the stuff

of the museum, the visceral experience of the object, and somehow translate that to other forms of media? We haven't figured that out yet. If anyone can do it, I think it's Bill Moggridge. (Lustig, 2011)

The perceived problem to solve was that the Cooper Hewitt had distinct audiences that were not being fully served by the museum as it stood. The museum redevelopment was designed to reconcile its different audience groups that ranged from residents of the immediate locality to the museum, who enjoyed exhibitions of textiles and jewellery, to the creative professionals in international design businesses who knew the Cooper Hewitt through the design awards that it hosts annually (Chan, 2015).

Early on, Moggridge set out a core concept for the new public displays; to show that “everything is designed. We want to show people how it happens [so they can] learn by doing.” With a political goal: “We create influence, become a national resource, and expand the virtual presence” (Lustig, 2011).

At roughly the same time as the decision making was happening for the new Cooper Hewitt museum, the Smithsonian Institution was crystallising its new media activities into a formal digital strategy. Their strategy settled on eight “goals”, summarised as:

Mission – Prioritize Web and New Media programs in proportion to their impact on the mission

Brand – Strengthen brand relationships throughout the Smithsonian

Learning – Facilitate dialogue in a global community of learners

Audience – Attract larger audiences and engage them more deeply in long-term relationships

Interpretation- Support the work of Smithsonian staff

Technology – Develop a platform for participation and innovation

Business Model – Increase revenue from e-commerce fundamentals and Web 2.0 perspectives

Governance Design – and implement a pan-Institutional governance model” (Cooper Hewitt, n.d.)

Sebastian Chan was hired by Moggridge to act as digital manager for the redevelopment programme; “to initiate and shepherd a digital transformation of the institution during this critical renovation and rebuilding moment” (Chan, 2015). The roster of outside suppliers was large, including architects (Diller Scofidio & Renfro), designers (Pentagram), digital developers (Local Projects), hardware manufacturers (Ideum) and industrial design companies (Sistell Networks).

Chan was charged with assembling a digital development team; as well as coordinating the aforementioned suppliers, the team intended to develop a collections data API (Application Programming Interface – a means for computer to computer communication). Chan was given some freedom with hiring, without necessarily having to go through the formal processes required by other institutions. The Cooper Hewitt was able to hire former Flickr employee Aaron Cope, despite not being able to pay the salary at the level he could attain through his standing, largely through the appeal of the institution and the proposed work itself.

I had a vacancy for a developer and I actually reached out to Aaron and said , ‘look do you know anybody who I should hire’ – And he’s like ‘well maybe I’ll come and do it’. And Bill approved the salary that would attract him across because I explained to Bill – ‘you know you want me to do great stuff, Aaron’s really great and we can do great stuff together.’

(Chan, 2015)

Other than salary, Cope was concerned about working processes in the museum, particularly approvals in the hierarchy. Chan recounted their conversation on the subject:

He’s like, ‘look Seb as long as I can ship code I’m happy and we can do some awesome stuff’ ... “if I can’t ship and its got to go through weird approval processes [i won’t Join the team]’. And I said ‘no no your approval process is me, I’ll approve it’. (Chan, 2015)

Cope later defined his (and his team’s) role in media production terms:

to figure what it means, in concrete terms, to make the museum well-and-truly part of the internet and the rest of the time is spent designing and building the systems to make that happen. ... That involves a healthy mix of data-wrangling, managing servers, writing code and designing the architecture and the user-facing aspects of the collections website as well as imagining novel ways for interacting with all the data

we've collected. And finally working through the process of integrating it all with the building. ... the building itself will be one of, if not the largest, consumer of the collections website. (Cope, 2015)

The galleries reopened at the end of 2014; filled with digital media, including many touch tables that show the objects in the collection through a digital “river”. Emphasis was placed on creative interaction by museum visitors. For example, the museum contains a “design lab” where people can experiment with their own designs and the “immersion room” where visitors can experience the wallpaper collection as projections around the four walls of the gallery space; seeing the designs “as they were intended”.

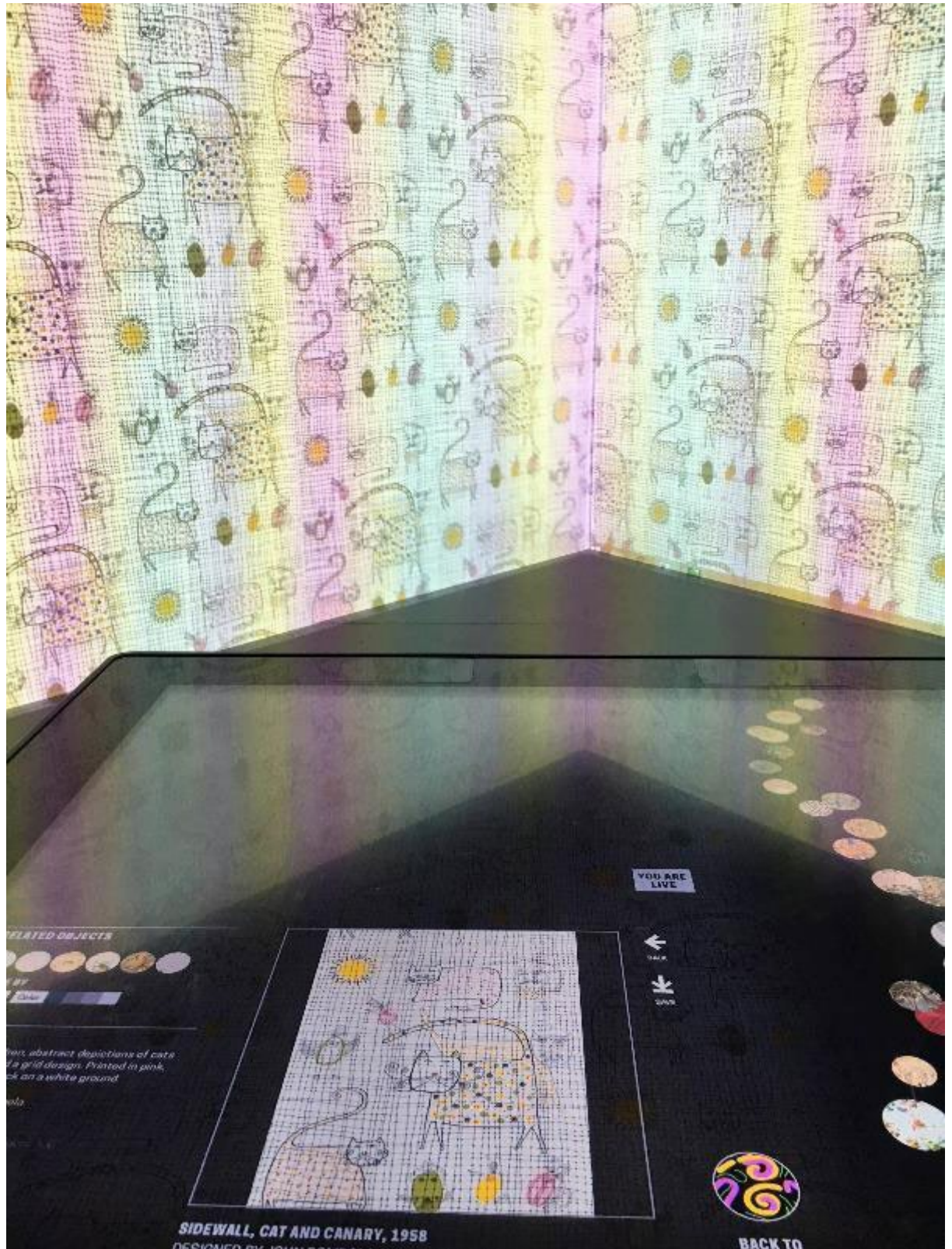


Figure 5.35: The Immersion Room, showing a touch table in the foreground where a wallpaper sample has been chosen (bottom centre) from the "digital river" (bottom right) that cascades down the screen. Chosen wallpapers are projected into the space, replicating a papered room. (Author's photograph)



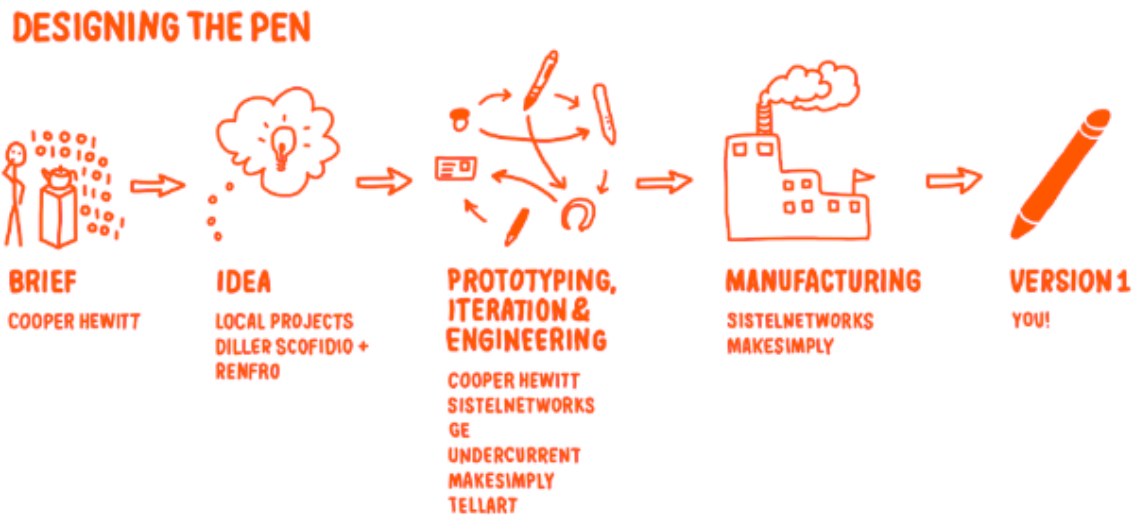


Figure 5.36: A diagram produced by the Cooper Hewitt to show the Pen's development process.

The visitor's journey around the Cooper Hewitt is mediated by the "pen", a double ended pen shaped device handed to visitors at the ticket desk. One end allows them to collect objects that they are interested in, the other to draw on various touch screen devices around the museum, at a higher degree of fidelity than with their own fingers. The "collected" objects are viewable later through a URL printed on the visitor's entrance ticket. Accessing that URL presents a gallery of objects drawn from the collections management system.





Figure 5.37: The Cooper Hewitt pen (author's photo).



Figure 5.38: The Cooper Hewitt pen in use as a “collection” device (Photograph: Cooper Hewitt n.d.)

With an integrated set of media, throughout the museum and off-site, the Cooper Hewitt has been taking advantage of the data captured from usage through the different manifestations of their production. An article was published on their blog, entitled “5 months with the Pen: data, data, data” (Chan, 2015) where Chan stated:

For the first 4 months, March through June, the percentage of visitors retrieving their visit data from the unique URL on their ticket was flat at 35%. In July we started to see this drop to 30.65%. We’re looking into some of the potential causes for this drop – this may be related to the Pen box at the exit operating in a less-staffed mode (previously every Pen was collected by a front-of-house staff member who would verbally remind the visitor to check out their visit using the

URL on their ticket as they left the museum). We will soon be trialling a slightly redesigned ticket with a simpler, clearer call-to-action and URL, as well as better exit signage as a reminder. That said, these figures for post-visit access are vastly better than most other known initiatives in the museum sector where post-visit web use is usually well under 10%.

(Chan, 2015)

This analysis shows a willingness to engage with “continual improvement” of the media output and its utility for the museum’s audience, even once the main production process had been completed. The availability of metrics from the museum’s data also filters back into the way the museum describes its collection and its (digital uses) to its audience, and to other museum professionals. On the collections site, the museum states in large letters “We have 197,941 objects with 254,782 images from our collection currently available online” (Cooper Hewitt, n.d.) – a live report from the collections database, followed by the three most recent objects scanned for the collection’s records and another line of stats: “We’ve given the Pen to 352,689 visitors, and they’ve used it to collect 14,264,426 objects and create 316,801 designs” (Cooper Hewitt, n.d.).

Of the four examples, the Cooper Hewitt represents the clearest attempt to unify media output across the whole museum, both inside the galleries and “beyond the walls”. Organising a unit within the museum along the lines of a Silicon Valley startup, Seb Chan and his colleagues took a data-centred approach that underpinned a collaboration with a number of very different suppliers and produced an eclectic range of points of engagement with the museum’s audiences; both established and new. The result is a venue that is almost entirely mediated, without impeding on its

functions as a museum.

Conclusion:

## **Widening the mesh of contributors**

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In each of these cases, there is a palpable sense of exploration expressed by each of the interviewees. The other striking element is the degree to which partnership and participation had been encouraged for each project. All four recruited a diverse range of suppliers into their project, often in reaction to need rather than as per original planning. A desire to use their media production as means to engage with audiences in new ways is commonly expressed – Brighton Museum went out of their way to recruit non-professional people (young people and source communities) into their project, and Southend Museums' Clare Hunt and Surface Impression staff gave up their free time to undertake intensive user testing of the Art Explorer App. The British Museum and Cooper Hewitt found means to “go beyond the walls”, the former via live “event” cinema and the latter by means of their self-developed hardware, the Pen. All of these activities required a wide mesh of new activities, people and things to be drawn together, working to a production programme with unsure methods and outcomes. In the next chapter, we will examine the production process, viewed through the lens of Actor-Network Theory.

## Chapter 6

# Evidencing co-production: Tracing the production network

**I**n Chapter 5, we were introduced to the four case studies at the heart of this research, we can begin to trace the actor-networks involved in their production. To do so, we will put to use some key Actor-Network Theory tools – Callon’s “four moments of translation” and Latour’s “socio-technical graph”.

## Assembling the network

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The creation of any media product requires somebody to initiate the project and any number of colleagues, collaborators, suppliers, and advisers to be recruited to the cause of the ‘programme’. Along the way, many things must be utilised or engaged with – technologies, materials, protocols, technical information, quality control procedures, designs and prototypes. These people and things, acting together, can be described as a network. The network is assembled for an ostensible purpose, and the members of that network must work together to join, then maintain the network – all the while giving it, and then furthering, its purpose. As we have seen, Actor-

Network Theory (ANT) gives us a set of tools to help describe the characteristics of, and track the processes of socio-technical networks and this section will use some of those tools to explore the media production activities of our case study museums.

People and things (collectively known as “actants” in Actor-Network Theory terms) cannot appear simultaneously to form a fully functioning network, instead the network must be built over time by recruiting more and more actants. Each recruitment consists of a series of negotiations to align interests between actant and the overall programme of the network, or at the very least, between the actant and the “focal node” – the most motivated and mobilized member of the network.

The negotiations that the actant and the network undertake were categorised by Michel Callon (1986) in a paper that was to become seminal for Actor-Network Theory: *Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay* (Callon, 1986). In the paper, Callon used a case study of a scientific and economic controversy around the decline in scallops in St. Brieuc Bay, France and the work of three marine biologists to develop a conservation strategy. Callon defined four “moments of translation”:

- (a) problematisation: defines which other actants have interests that are consistent with the interests of the actor who is the focal node of the programme.
- (b) interessement: a series of processes by which actors are placed into the roles that had been proposed for them in the programme.
- (c) enrolment: the further embedding and cross-

linking of actants in the network via “group multilateral negotiations, trials of strength and tricks that accompany the intersements and enable them to succeed”

(d) mobilisation: a set of methods used to put the recruited actants to use in the programme, in a form that supports the interests of the principle actors of the network. (Callon, 1986).

In his conclusion, Callon noted that translation is a process, never a completed accomplishment, and it may (as in the St Brieuc Bay case study) fail (ibid).

The key term for ANT is “Translation”; in ANT terms, translation encompasses dictionary definitions that are about conversion: “the conversion of something from one form or language to another” and displacement: “movement of a body from one point of space to another”. The principle actors seek to achieve their programme by translating other actants into a form that furthers it (conversion). Actants are recruited into the programme, translating them from problematization to mobilization, but every actant that is recruited also shifts the programme itself from its original course (displacement). We will address the shifting of the programme later in this chapter, but first let us examine the four moments of translation.

## **Problematization**

Using the the Southend App development project as an example, we can list the obvious actants involved, and define how they might have interests that are consistent with the museum – or, more specifically, the focal node of the network, Curator Clare Hunt. (See the appendices for other Actant lists).

|   |  |
|---|--|
| Southend Museums – Beecroft Gallery           | The Beecroft Gallery, part of Southend Museums service. Exists to display the fine art collection, principally concerned with the art of South Essex alongside touring exhibitions.                    |
| <b>Curator (Clare Hunt)</b>                   | Employee of Southend Museums with job role: curator (later museum manager). Responsible for furthering the mission of the Beecroft and Southend Museums service.                                       |
| <b>Artists</b>                                | Painters (and photographers) operating in the South Essex area, creating works to represent the town and landscape. Artists (generally) wish for their work to be seen by others over a long timespan. |
| <b>Artwork (fine art)</b>                     | The works created by the artists, various (visual art) media, mainly from 19th and 20th Centuries to earn money, social interaction and further creative practice for the artist.                      |
| <b>Locations</b>                              | A place depicted in an artwork   |
| <b>Arts Council England (ACE)</b>             | Funding body that exists to further the arts and museums sectors in England  |
| <b>App</b>                                    | Software platform that allows for enhanced interaction between users and their phones or tablets (mobile devices)  |
| <b>Brief</b>                                  | A document created to solicit proposals from developers  |
| <b>Developers (Surface Impression)</b>        | A digital development company that creates websites and apps.  |
| <b>Photographers</b>                          | A company that specialises in producing photographs of artwork   |
| <b>Designs</b>                                | A series of graphic devices, of increasing fidelity, used to explore the usage and look of a user interface  |
| Photographs (of art)                          | Digital replicas of artworks for use as records, study aids, media items etc   |
| <b>Maps</b>                                   | A system of shapes and symbols used to represent the spatial arrangement of an area  |
| <b>GPS</b>                                    | Geo Positioning Satellite technology – a system to identify the latitude and longitude of a location using triangulation between satellites  |
| Photographs (places)                          | Photographs (taken by Clare Hunt) to represent the current view of a location depicted in an artwork   |
| <b>Content</b>                                | Text and metadata used to describe an artwork and its artist   |
| <b>Content Management System</b>              | A web-server-based item of software used to store and display content for digital media  |
| Creative Director / Designer (Peter Pavement) | A staff member at Surface Impression with responsibilities for concept and design  |
| Project manager (Shelley Boden)               | A staff member at Surface Impression with responsibilities for project control   |
| Developer (Alex Peckham)                      | A staff member at Surface Impression with responsibilities for app software development  |
| Content manager (Tim Bowers)                  | A staff member at Surface Impression with responsibilities for content management  |
| <b>Mobile devices</b>                         | Smartphones or tablets used by consumers for a wide range of tasks   |
| <b>App software</b>                           | The code and components used to create an app  |
| <b>Prototype</b>                              | A working model of a piece of software used to assess functions and design   |
| <b>Testing group</b>                          | A group of audience members (potential users) recruited to test a piece of software  |
| <b>Old Library</b>                            | A Southend Council asset in their estate, formerly used as the central library for the town  |
| <b>“Kiosks”</b>                               | Fixed digital display within the gallery space used to add access to content for museum visitors   |
| <b>Users</b>                                  | People who make use of a digital resource such as an app   |

Figure 6.1: Tracing actors in the Southend Museums project

## Interessement

As we saw in the previous chapter, the key aim of Hunt and her colleagues at Southend Museums service was to digitize the art collection. But more than that, they wanted the outcome to be “of the highest quality – can be used for whatever, whenever we need to use it” and specifically undertaken by “fine art photographers” (Hunt, 2015). Hunt already had a connection with such a photographer, through previous work with the Public Catalogue Foundation. The photographers essentially need two things to become interested enough to join the network – firstly a client that suits their specialism, and secondly a budget. The first is established by the nature of the fine art collection (and the prior contact) but the latter was not in place. To gain a budget for the project, Hunt must also bring Arts Council England (ACE) into the network. However, ACE resists recruitment at first – although problematized (part of their remit is to fund museums), they do not consider the museum’s proposal “that interesting” (Hunt 2015). Hunt must then reframe her proposal to design a project that is “more with the times” (ibid), yet achieves the goal of digitising the fine art collection. The next actant added to the network is the technology behind smartphone “apps”, thus attaching a wider, further network – that of the smartphone manufacturers and software creators; Apple, Google, Samsung and their like. Simply by committing herself to creating an app, through the ACE proposal, Hunt is forced to engage with this huge network. The manufacturers and software creators are “interested” in having organisations and individuals creating apps for their devices, as this makes their products attractive to potential consumers and encourages loyalty amongst existing customers. However, the museum does not have the means to create an app itself, therefore it must recruit an intermediary – an app developer – to act as a node between their collection, themselves, the fine art photography and the app technology (and its



suppliers). An app developer has similar motivations to a fine art photographer, being interested by suitable projects for its skills that also have a sufficiently large budget to sustain the activity required and leave a profit. But before the app developer can be appointed, the museum must satisfy another actant – the ethical protocols set in place by its parent organisation, Southend Council. These protocols force a certain action, namely the running of a tender process – the aim of which is to provide evidence that the “most economically advantageous” supplier is picked. Several developers were approached and sent a brief, and they each produced proposals or quotations, but only one could proceed to be part of the network. For the others, their Interessement was not translated into the next step, Enrolment.

The British Museum’s own Pompeii app went through a similar, but accelerated tender process:

We didn’t produce it in-house, we did a very speedy tender and awarded it to a company called Apadmi, based in Manchester. And they’d done a few apps including I think one for the BBC, well they’d rebuilt BBC’s radio player app in android. So they were very solid technically and one of the reasons we accepted them was they were highly recommended doing things quickly and robustly, good engineers. (Cock, 2015)

This statement reveals one of the key strategies used by media suppliers to convince their clients that they have the “most economically advantageous” proposal – the use of previous clients and previous work as a convincing factor. The BBC and the British Museum are two organisations with a history of collaboration, who have

shared many staff members over the years, and who could perhaps be described as peers in the cultural landscape of the UK and internationally. A supplier that has credibility with the BBC is likely to have credibility with the British Museum – and so the previous work, and the previous client are translated from the supplier's own network to the relevant part of the tender document, with the hope of triggering enrolment to the new network.

At the Cooper Hewitt, formal control systems for recruitment of staff and suppliers was more relaxed, with a large degree of autonomy given to the manager delegated to undertake digital development; in this case, Sebastian Chan. Chan was able to reach out to a developer he already knew, Aaron Cope, in effect “head hunting” him from Cope's previous employer, Flickr. In effect, Cope was shared other, wider, networks with Chan, and the prior knowledge of each other created conditions of Interestment for the new project.

## **Enrolment**

Once the project was underway, other actants needed to be brought into the network, or it risked stalling or destabilizing. Exchanges between the actants needed to be increased in order to request or provide information and resources and then to achieve goals. In Actor-Network Theory terms, each of these exchanges are instances of translation – for example, a painting in the collection is provided to the photographer, who uses their knowledge of lighting and colour reproduction to take a photograph using a camera. The camera creates a digital file in an appropriate format using software and places this file on storage hardware. A copy is placed on another piece of hardware and passed to the museum. This line of translation, that was part of all four case studies, spans across the network can be traced further than

the place or time of the project: in this transaction, the original artist's interpretation of a location in Southend or South Essex is first translated from eye and brain to canvas via paint and pigment where it becomes a painting. The painting is accessioned by a museum, where it becomes translated into an object. The object is photographed and so translated into a file. The file is loaded into an app on a mobile device where it is translated into an image. The image is associated on the screen with the curator's text, which provides new interpretation of the location and the original artist. The app packages the images and interpretation into an experience. The original work goes through translations that can make it less recognizable and then more recognizable in turn, along the way picking up deliberate and unwitting changes from all the actants it meets. No matter how good a photographer and equipment, the camera will not capture the colours and the detail of the artwork perfectly, the app layout will radically modify the scale and is likely to affect the cropping of the image. The curatorial interpretation cannot convey the detail of the location or intent of the artist. The end result is about the art, but it is not the art. Yet artist, artwork, museum and app user are undoubtedly connected together – the app user reaches across time and place thanks to the actor-network.

At each step of the production process, the actants much reach out to, or even generate, other actants in a continual process, recruiting new people, objects and procedures in order to progress each of their aims. For example, the app developer allocates some of its employees to the project, enrolling them into the network. As per Callon's definition (1986) Enrolment is a process of "group multilateral negotiations, trials of strength and tricks". Employees have already been through a process of problematization and interessement through recruitment (submission of CVs, attending interviews, checking of references). Once embedded into the company, enrolment of a person onto a project involves a matching of skills to

anticipated tasks, and negotiation between management, project managers and staff members. Incentive and control structures are in place to ensure the employee will become enrolled – the project will be described to the staff member, brief shared, proposals reviewed and the aspects of the job that they are required to do examined in a way that appeals to professional pride and curiosity. An employee that refuses to be part of a project would be subject to sanction, through clauses and protocols that are set out in employment contracts and law. An employee that does not want to be assigned to a particular project may argue their case, and this, when faced with the sanctions available to the company and the law of the land, represent an example of Callon's "Trials of Strength".

Non-human actants also require a form of negotiation, in order to embed them into the network. For example, an idea that found its way into the Southend App was to display the locations of all the artworks on a map. This was intended to help users to find the locations of the original artwork so they could more easily find the same spot themselves, or at least understand the context of the artwork further. The providers of smartphone operating systems and app creation software, Google and Apple, include a system whereby interactive maps can be embedded into an app. The principle locus of negotiation between developer and the providers is through code. The provider publishes documentation of the API (application programming interface) that allows a map to be used. The developer must interpret the documentation, that often takes the form of a list of functions, plus examples of usage, and translate the information into their intent for the app's functionality. To do so, they enter the functions into a text editor (software), following the conventions of the app provider's programming languages of choice. To guard against errors, the developer will write a few lines of code, then test the functionality by running the code on a device (or in a software simulator of a device). Each run

is followed by corrections, or by new lines of code. The programming language tolerates no typos whatsoever, and it is all too easy to introduce logical problems or other bugs into the code. So line by line, test after test, the developer must proceed in a painstaking way – negotiating carefully with programming language, the API and their own coding. Add to this mix the cartography displayed in the app and the negotiation becomes even more tricky – each provider has its own sources, and there are differences between them.

To reduce the burden of coding, developers often create software “libraries” that can be reused from project to project. The technique of writing code that can be utilized in different projects and settings is called abstraction. Abstraction, however, introduces another burden of negotiation for the programmer – they must write their code in such a way that anticipates the needs of future projects and is not too specific to the context of the current project. By doing so, the coder brings in another actant into the network – a future, as yet unspecified client – another example of Actor-Network Theory’s lack of boundaries when it comes to time and place!

In ANT terms, software is a set of programs (code) that has punctualized its network sufficiently to become a black box. As well as employing software in their work, developers can deploy pre-existing software for the client to use, in order to make the project easier to achieve. In the case of the Southend App, one item of software used was Content Curator, a content management system developed by Surface Impression. A content management system (CMS) provides a means to store content on a web server. This CMS provided an interface into which the curator added the content for the app, without having to have the development company undertake the work. The CMS also meant that editorial changes could be

made directly without Hunt having to liaise with the developers. Content from the CMS was then “synchronized” with the app, so that it would update itself upon launch.

Having a CMS in place benefited the project as described above, but as a “black boxed” member of the network, also brought some significant constraints. Content entered into a CMS generally must conform to a set of fields, with every record forced to utilize the same formula. The app itself reads the data from those fields, and sets it out in consistent templates. To vary the functionality or behaviour of the CMS rapidly expands the network (and thus the negotiations and complexity of the project) as changes made to the system can affect other clients that use the same platform. The easy route taken, in order to gain the benefits on offer, is to let the CMS remain the same and adapt the content to suit it. Therefore, the CMS becomes a key node, or actant, in the network, that must be enrolled and mobilized too.

Content management systems were utilised with every case study, Brighton Museum, Southend Museums, the Cooper Hewitt and the British Museum. They provide an obligatory point of passage that translates the “content” (words, images, video, audio etc) created by the museum and its providers into a form that can be processed, repackaged and redistributed by a wide range of computer systems. The content management system enrolls museum staff, and shepherds disparate elements of content into the network, ready for mobilization into new forms and formats.

## **Mobilization**

At the point of mobilization, the actants are transformed into a form that supports the interests of the principle actors of the network. The transformation from problematization to mobilization can be radical – a person, say a graphic designer,

can be transformed into a design. Human has become object – the person is a visible and essential part of a network who has been negotiated with by the principle actor and others, but ultimately the thing that the network requires to move the project programme forward is a set of designs. The designer could even leave the network, perhaps moving on to a new project, but the result of their transformation remains, and is mobilized as an item that can be used by other actors to continue assembling the outcome of the project.

In the example of Southend Museums, a key example of this process was the fine art photographers. They were successfully transformed from a specialist supplier, made up of a group of people, procedures and equipment, into a set of image files, ready to be used for various purposes by the museum at any time – and immediately for the app. The photographers had finished long before the production of the app, but their mobilized form was ever-present.

Although the photograph files represent the mobilization of the photographer, they also represent a mobilization of the art, which is in turn a mobilization of the artist. Therefore, we can identify two branches that go to form this node, one stemming from the photographer, the other from the original creator.

With the World Stories Young Voices project at Brighton Museum, another moment of translation saw the museum's network of young people (some already in contact with the organisation before the project, others enrolled specifically for the project) mobilized into the text and photographs at the heart of the exhibition and its supporting media. The contributions of young people were filtered by the exhibition team, then converted into quotes, displayed in large vinyl lettering on the walls, woven into the text on most exhibition panels and their interviews and

creative contributions (for example stop motion animation produced by primary school children) included on video and audio clips. By doing this, the “co-curatorial” vision that the museum staff had for the project was mobilized into the presentation – the young people could not be present every day in the gallery to discuss the museum’s ethnographic collection with visitors, but their presence is clearly threaded throughout. They have been mobilized, translated into a form that furthers the museum’s goal.

At the Cooper Hewitt museum, one example of mobilization was the unique web address printed on the entry ticket. This element was the result of negotiation among the project team, and the enrolment of another supplier, Tellart, into their network. Tellart devised the electronics necessary to generate a unique address and tie it to the Cooper Hewitt Pens handed to each visitor. As visitors walk around the displays, they “collect” objects and can view them later by visiting the address on their ticket. By enrolling a means to print unique web addresses on the tickets, the museum avoided the need to use less user friendly means for visitors to access their content (such as setting up a user account during the visit). The addition of this printed text on the ticket mobilized the activity of the visitor and the Pen – providing an obligatory point of passage between the visit and the things that the visitor could explore after the visit.

## Programme

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Actor-Network Theory holds that society is not determined by technology, and that technology is not determined by social forces (Latour, 2005), but that both humans and objects are “symmetrical” in their socio-technical interactions (one should not



be privileged over the other). In fact, if we look closely enough, a human consists of object-like entities (bone, organs, blood, food, shelter etc) and an object reveals its interaction with the human. An object is the manifest outcome of a project. A project encompasses a series of actions over time with an intended outcome – it is this that is called the Programme.

If we consider the progress of our museum media projects as they were produced, we can pick out sequential or overlapping steps that the network encompassed, and we can identify how those steps furthered the central actors programme.

The networks in the four case studies are fractal in nature, the closer we look, the more actants will be revealed. But we can limit our focus to one particular aspect, or set of interactions, through the project networks, to explore the translation of actants into museum media products. Here, we will look at translation from concept to media technology, with a focus on creative processes – covering funding, design, content and technical development. These were processes of translation that were involved in one form or another at all four case studies. Each interview, along with available documentary sources, was analysed to identify actants and how they engaged with the four moments of translation, additionally clusters of associations and interactions were sought via network graphs. The aim was to “follow the actors”, as always encouraged by Actor-Network Theory.

At each of the institutions, a project definition had to be assembled before anything could progress. This involved negotiating a decision to undertake a project with a particular media technology and mobilising this into a document or documents. Uncertainty was great at this point, and networks could easily destabilize and fall apart. For example, the British Museum considered using event cinema for their Shakespeare: Staging the World programme in 2012, but decided against it, in part

because of difficulties in recruiting LOCOG (London Organising Committee for the Olympic Games) to their network (Wheatley, 2015).

For Brighton Museum, the trigger for redevelopment of the World Art Collection gallery was an evaluation report. This was provided by early recruits to the network, the consultants Sussex Arts Marketing and Lucid, who worked with “non-visitors” to ascertain attitudes to the museum – identifying a particular gap among young people. Further impetus to the development of a gallery redisplay concept came in the form of the Stories of the World initiative, a one-time cultural funding strand associated with the London Olympics (Mears, 2015).

Once a project has been defined and agreed internally, it then needs to be funded. This involves approaching sponsors or funding bodies with proposals / applications and the negotiation of support. Among a broad portfolio of funding sources for the four case studies there are some key examples: Southend Museums approached Arts Council England, the British Museum secured support from Goldman Sachs Group, Inc and Brighton Museum from the Cultural Olympiad, Stories of the World strand.

With a project definition and funding available, the museums went on to gather collaborators. Each of the interviewees identified a range of people and organisations that were brought in to their networks in order to further conceptualisation, design, development and dissemination. Often, a recruitment process was mentioned, sometimes involving tenders and proposals. Content production was also described by several of the case study participants – including descriptions of strategies and techniques to help firstly derive, and then secondly reduce and refine content, to make it ready for usage.

As the projects moved into production, the cycles of translation became increasingly

populated by the non-human – tools, techniques, documents and technologies.

| Programme             | Problemetization                                 | Interessement                          | Enrolement                               | Mobilization                       |
|-----------------------|--|--|--|------------------------------------|
| <b>Project set up</b> | Clare Hunt (Southend)                            | Photography                            | Evaluation                               | Director approval                  |
|                       | Helen Mears (Brighton)                           | Film                                   | Discussions                              | Council approval                   |
|                       | Seb Chan (Cooper Hewitt)                         | In gallery interactives / touch tables | Surveys                                  | Project proposal / treatment       |
|                       | Patricia Wheatley (British Museum)               | Event Cinema                           | Business cases                           |                                    |
|                       | Matthew Cock (British Museum)                    | App / Mobile / Pen                     |  |                                    |
| <b>Funding</b>        | Arts Council England                             | Grant for the Arts                     | Application form                         | Grant                              |
|                       | London Organising Committee of the Olympic Games | Stories of the World                   | Relationship managers                    | Sponsorship                        |
|                       | Sponsors / fundraising                           | Goldman Sachs                          | Organisational development relationships |                                    |
| <b>Suppliers</b>      | Brief  | Tender                                 |  |                                    |
|                       | Job description                                  | Network of contacts                    | Proposals                                | Pitch                              |
|                       |  |  | Discussions                              | Contract                           |
| <b>Design</b>         | Designers  | Drafts                                 | Presentations                            | Graphic design                     |
|                       |  | Plans                                  | Design reviews                           | Identity                           |
|                       |  | Revisions                              | Sign offs                                | Assets                             |
| <b>Content</b>        | Objects  | Selection                              | Content grids (Brighton)                 | Content (photos, word, misc)       |
|                       | Curators   | Source communities                     | Editing / revisions                      | Script                             |
|                       | Collaborators / consultants                      | Collections management system          | API algorithm (CH)                       | UX Map / Shooting plan             |
|                       |  | Young People (Brighton)                |  |                                    |
| <b>Development</b>    | Developers                                       | Content management system              | Cinemas                                  | Media Products                     |
|                       | Technicians                                      | TV trucks / cables                     | App store                                | Apps, interactives, broadcasts etc |
|                       | Software   | Templates                              |  | Pen                                |
|                       | Producers  | Pre-recording                          |  |                                    |
|                       | Project managers                                 |  |  |                                    |

Figure 6.2: Moments of translation through a design and development programme

As the four case studies often went through similar processes, sometimes multiple times for the same project. We can identify commonalities for the museums' media development and reduce the processes to more abstract stages in order to represent the Actor-Network Theory translation that is involved (using Callon's four moments as a structure). The processes are definition of the project, securing of funding, recruitment of creative talent (eg for design), selection of collection objects to feature and finally development of media product.

We can then plot the abstracted actants onto a diagram that shows the moments of translation as phases on the x axis and the programme as the flow of time downwards on the y axis. To pick an example, the principle actor, a museum professional, investigates the potential for a media project (the "programme"). To do so, they must recruit a media technology – selecting a form or format from the many available. "Media technology" becomes translated to "choice of medium". To achieve this choice may be quick and easy, or may involve a great deal of research by the principle actor (thus recruiting a multitude of information sources and retrieval mechanisms into the network too – just some of the detail omitted from the diagram for the purpose of clarity!). The choice is the result of a negotiation between medium, museum professional and information about the medium. In many museums, a project of this nature will need to be authorised by the museum's governance structure (perhaps at senior management or board level); so the museum professional must take the people with the right level of executive power into the programme's network too. A way to manage this process is to create a "case" or "proposal" for the project and present it to management. The programme, museum professional and choice of media technology is translated into a document and/or presentation – an "inscription" in ANT terms. If management approve of the plan, they have also been "enrolled" into the network.

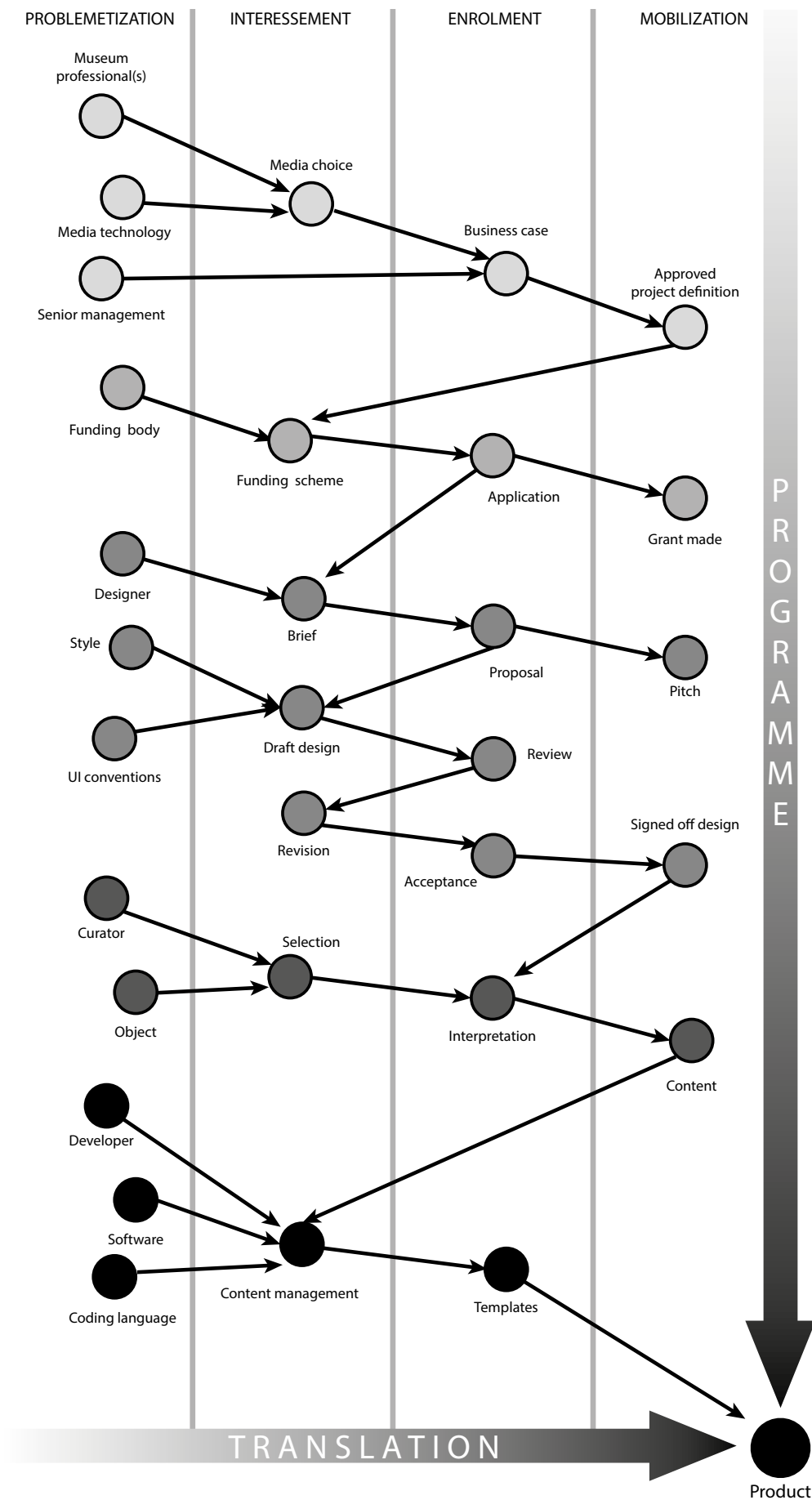


Figure 6.3: Stages of translation in production network assembly

The programme now has authority to proceed, mobilized by the further translation of the “case” into the “project definition”. The programme requires the recruitment of further actants, in this case we have identified a web designer as the next step. But there is no designer in the network already, so we must return to the outer reaches of intersement to begin the translation process again.

The assembly of a network requires considerable effort, other actants recruited, proposals written, documents agreed. Once in the network, relationships between actants must be maintained. Networks can, and often do, fall apart before fruition of the programme. The board may not approve of the project, a funder may reject an application, a chosen technology may present insurmountable technical problems or uncertainties. Even within a network that is sufficiently functional to continue, translation processes can reverse or require restarting. For example, a new version of a software package is released to the market (as happened with Southend Museums), and a crucial item of functionality – central to the project plan – is discovered to have been dropped by the software manufacturer. The programme cannot proceed with the new version of the software and the principle actors do not have negotiating leverage to persuade the manufacturer to bring back the feature. The network must recruit another supplier, or translate the programme itself to remove the requirement for the missing functionality.

Media production networks have established formalities to manage some negotiations. It is common to find that organisations have operational rules that require potential suppliers to tender (or at least provide competitive quotations / proposals) for work. The tender process begins with the creation of a brief; a further inscription of the project definition, translated so it is comprehensible to potential suppliers and so it is focused on the perceived contribution of that

supplier to the programme. The brief is then circulated openly or sent directly to potential candidates. The brief is the interface of interessement, demonstrating to the supplier that their own interests will be served by the interests of the programme's principle actors. In our diagram, the supplier is a designer or design agency, and they will have interests that are financial (they wish to earn a fee), creative (they see enjoyable creative opportunities with work for a museum) or marketable (a project with the museum will raise perceptions of their abilities and value). The UK based museums all described the issuing of briefs / tenders in interviews, however the Cooper Hewitt expressed opposition to conventions, with Chan stating "it wasn't an R F P and then an R F Q and a tender thing" (Chan, 2015) as he was describing how they wanted their suppliers to co-design with the museum's design team, rather than solidify ideas through a formal process.

The designer translates the brief, their experience, their creative ideas and their operational capacity into a proposal – another inscription that encapsulates multiple network nodes. The proposal is rhetorical, seeking to persuade the potential client that the designer has what it takes to further the programme to a desirable outcome. At the museum, an actor, or group of actors (e.g. management), must assess the proposals, comparing the texts and assessing how well each potential supplier's interests would align with their interests in the programme. Subsequently, a selection of applicants are met for a "pitch" – an event that commonly follows a presentation by the designer with an opportunity for the museum to pose questions about the proposal. The actors negotiate with each other to decide which of the applicants they will appoint.

A tendering process is used by organisations to try to ensure some fairness in their supplier recruitment, as well as to demonstrate to themselves and to stakeholders

that they can get “best value” from their supply chain (a lower cost or greater quality or quantity of products and services). As a gateway through which a limited number of actants will pass, the tender also necessitates that a number of actants will be ejected from the network. Tendering is a clearly identifiable method of translation – converting companies’ potential network utility to documents (proposals); inscriptions that can then be assessed in a manner that they control the scope of negotiation and reserve action to the principle actants. The client can read the documents, assess against rules of their own choosing and avoid messy, unbounded discussions with representatives of potential suppliers.

Even actants that have been successfully embedded into the network have formal means to attempt to control translation and to maintain the network. For example, design processes include review points to allow clients to see and discuss work in progress. A larger project may incorporate many review points, a small project could have as little as one review – but it is very rare that a designer or design agency acts with complete autonomy. The reviews give the designer an opportunity to make a case for one or more approaches and for the client to voice their opinion on the aesthetic, practical and potential aspects of the design work at that point in the programme. In short, a review is another negotiation, the result of which is likely to be a design revision – another iteration of the design approach that then goes back to review. The negotiation goes back and forth between interessement and enrolment until the interests of designer, museum and programme are perceived to be sufficiently aligned in order to continue. At the Cooper Hewitt, design reviews were a regular, formal part of their interaction, creating a strong node in their network graph (Appendix XX). At the British Museum, the institution formed project boards to translate the institution’s interests into a manageable group of people (Cock, 2015) and design was “signed off” by this entity.



As we have seen, many actants are recruited into the network by the choice of the principle actors. However, many other actants insert themselves into the network – the other actants have no choice but to work with them in some way, translating the newcomer’s presence or activity into something that will fit with the programme. For example, the recruitment of the designer into the network also brings elements from their own networks, such as “style” and, as this is a digital project, “user interface conventions”.

Style comes from the creative practice of designers themselves, but also from their network of colleagues, education, peers and information sources. The designer brings a set of preferences for stylistic approaches – including organisation of information; use of colour, pattern, space or type; choice and treatment of imagery; and response to the means of delivery (such as touch screen, desktop computer, web browser choice etc.). By needing to recruit a designer, the museum demonstrates that it does not have access to these wider networks and skills itself. Although they may take the stylistic preferences of the designer during the selection process, they also may not have a full appreciation of the stylistic “offer” of each candidate.

User interface conventions abound in digital media projects. Some, such as consistent navigation bars throughout a website, emerged over time and then became established throughout the industry (reinforced by teaching, manuals, guidelines and developer conventions). Other conventions are promoted by software or hardware manufacturers. One example is Apple’s iOS Human Interface Guidelines (Apple, n.d.). These guidelines are provided for developers of apps for Apple’s smartphones and iPad tablets. They document a multitude of interface elements, with the aim to encourage consistent “user experience” from app to app “so that users can enjoy your app in as many contexts as possible” (ibid).

Apple subjects app publishers to a review process whereby Apple employees assess new apps against a large set of criteria, the App Store Review Guidelines (Apple, n.d). If an app fails to pass the review, it will not appear on the Apple app store, and so cannot be distributed to any iOS-based audience-member's phone or tablet. In this way, Apple makes itself an Obligatory Point of Passage for its own app platform programme and forces developers and publishers to align with its interests. A change to the Apple iOS Human Interface Guidelines, accompanying a version update of the app platform, resulted in network instability for Southend Museums (see Hidden Actors / Black Boxes section in this chapter below) and significant reworking of the design. The British Museum used its greater power of mobilization to recruit an advocate at Apple, and this person / actant allowed swift passage of the Pompeii app into the app store (Cock, 2015).

If we take our translation diagram above (Figure 6.2) and simplify it, we can represent each incoming network member as a single arrow that “impacts” upon the line of the programme.

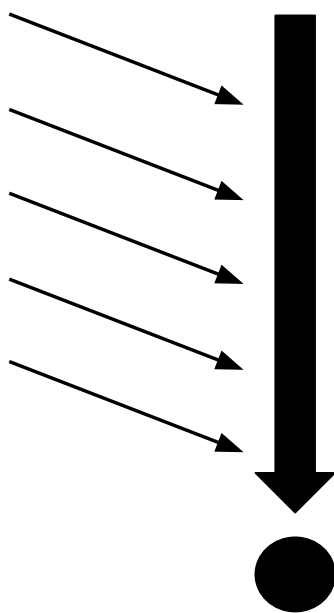


Figure 6.4: Simplified translation diagram

“Impact” is the key term here, each contributor to the programme brings to the project their own ideas, strategies, material, equipment, skills and so on. By translating a new actant into the network, the network must be translated itself – and so the programme itself changes. For example, the funding body might attach constraints to its funding that alter the direction of the programme. The funder does this because they have strategic and operational priorities and the museum must translate the programme to meet the funder on these conditions. The original vision is modified and the programme continues.

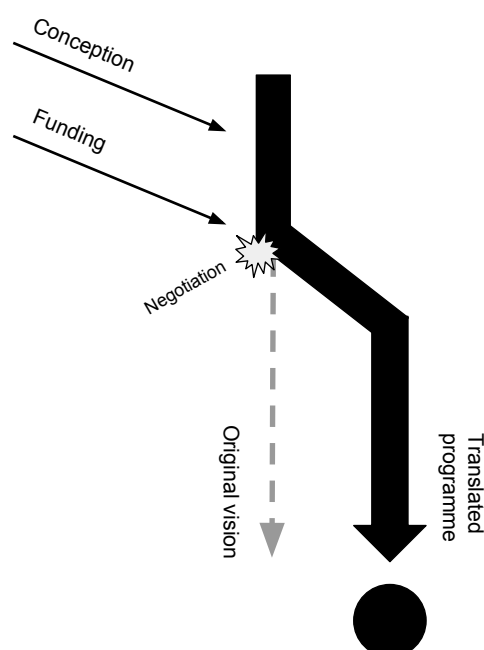


Figure 6.5: Impact of new network members on the programme

Each actant causes the programme to change in some way, through a network of smaller and larger negotiations, all resulting in the translation of both actant and network from one position or state into another. In addition to this, there are factors, outside of the direct influence of the network, that also have an influence on the outcome of the project. Latour calls these factors “counter-programme” and describes these kind of charts as “socio-technical graphs”.

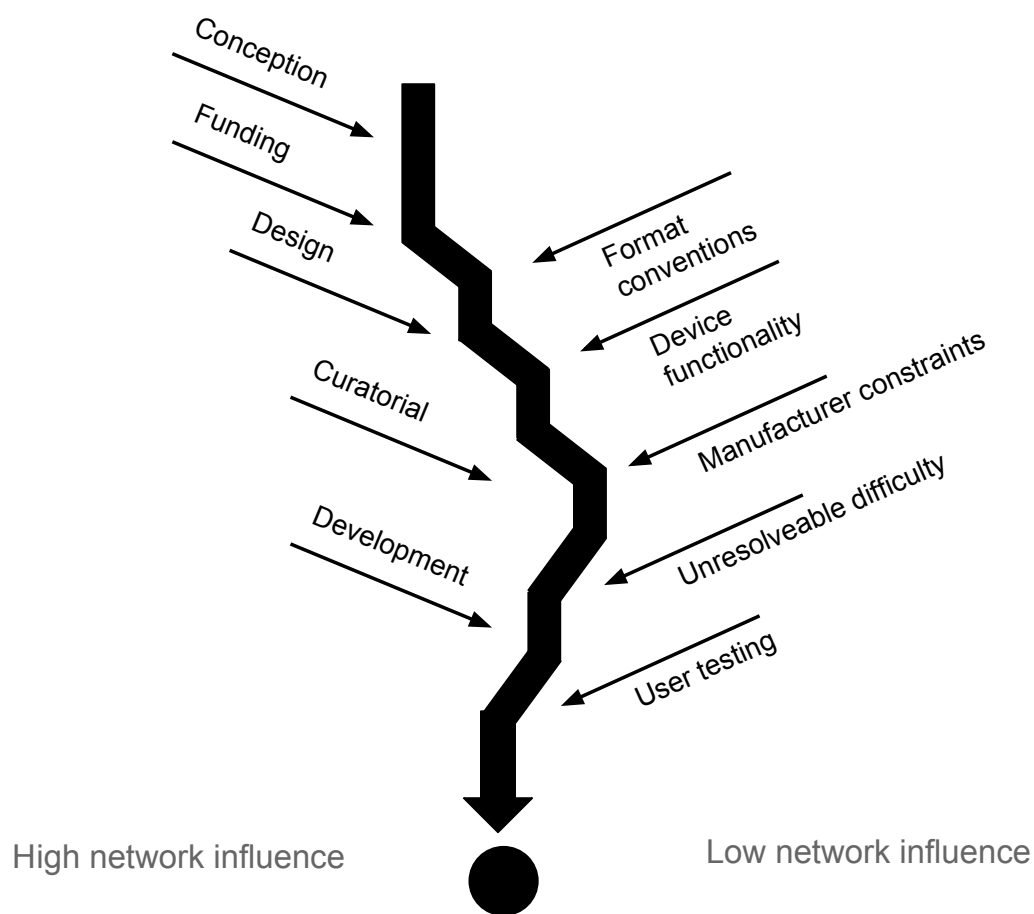


Figure 6.6: The programme translated by in-network and outside-of-network influences

### **“Counter-Programme” and managing uncertainty**

By adapting Latour’s graphs to a media production context, we can see how there are influences on the programme that come from “inside” the production network itself, where the actants are able to negotiate with each other and agree upon the direction of the programme. The media production network itself is part of multiple, overlapping networks that stem from the media technology, social setting, organisational context and other “wider” factors. These other networks also impact upon the programme, but here the influence of the actants is low or non-existent – this is where the “counter-programme” resides. The more uncertainty or constraints

there are around a new media technology (for example, bugs, sparse documentation, little experience in the workforce, strict manufacturer rules etc.) the more the network has to adapt the programme. This may result in the programme diverging further from the original vision, but it can also push the programme back towards the origin. For example, an actant may have contributed a change to the programme that makes use of a highly interactive or innovative technology feature, but during the development of the product it is discovered that there is a technical difficulty that is too difficult, or even impossible, to resolve within the budgetary, technical and time resources available to the project. The idea must be abandoned and the programme returns towards a simpler version of itself.

We can see how the counter-programme can overwhelm a project, causing delays and diversions in the British Museum's ambitions to start using live event cinema for their exhibitions:

Basically we had a new head of digital media and publishing coming in, and actually we had discussed doing events around Shakespeare in 2012. Shakespeare was our Olympic offering, the Shakespeare exhibition [Shakespeare: Staging the World], but it was just too hedged about due to LOCOG [London Organising Committee of the Olympic Games] – there were special restrictions on what you could and couldn't do. We had to have Coca Cola advertising or something, it was just too complicated. Also we arrived at it rather late. Pompeii was another matter and I think when we got to Pompeii it was just such a fantastically popular subject and it was so oversubscribed from the start. (Wheatley, 2015)

In this case the programme is set by the British Museum, but the rules of another actant, LOCOG combine with another actant – the museum’s own qualms (and policies) about advertising and commercial sponsorship. The counter-programme to their desire to embark on an event cinema production was so strong that the whole project was effectively shelved, only to be revived when the greater opportunity of Pompeii came along. Pompeii’s situation arrived with the advantage to the programme – LOCOG was removed from the network and the anticipated high audience demand for the topic of Pompeii had been added to the mix – and so the project prevailed.

The result of a meeting of programme and counter-programme is a shift in the direction of travel for the project network. One idea or plan is adjusted to overcome an obstacle or situation and step by step the project either fails or succeeds through a constant process of negotiation and renegotiation. Even if it succeeds, the project will always have shifted away from the original, anticipated outcome to become a new entity. But what if the principle actors are uncertain of their project, or have enough experience of production to know uncertainties must be part of the process? In these cases, a strategy is to invite comment from stakeholders and/or potential audience members, so accelerating the flow of information about aspects that might contribute to the programme or counter-programme. For example, the British Museum engaged with mainstream (“multiplex”) cinemas to help shape ideas for the content of the Pompeii event cinema production:

And that was one of the things we did, we took the risk  
ourselves and we went out to the multiplex cinemas as well

and they gave us 900 respondents who overwhelmingly liked it, because they felt that they were getting close to the experts, they were hearing from the people who lived with these objects and understood them. And the second most important thing was being able to see the objects and they looked amazing close up on a 40-foot screen. Quite low below was the documentary exploring volcano bit, which was interesting although viewers still wanted that story as well.

(Wheatley, 2015)

Looking back to the moments of translation, the procedure of this survey can also be mapped in terms of translation. The museum takes a group of people, cinema attendees, and problematizes them as an actant that will be able to represent the desires and behaviours of the eventual audience for the cinema event. Interestment is through the survey (and those undertaking the survey) – approaching people, getting them to answer questions enregisters them into the network where their aggregated answers are mobilized. The final form of the translation is the document, and the key responses and statistics contained within. Producers could use the findings to make a case when negotiating with colleagues or others – and so influence decisions. Initiatives that helped audience members to “get close to the experts” could be prioritized over “the documentary exploring volcano bit” because the survey was mobilized and understood by the parties involved.

The British Museum’s Pompeii and Vikings cinema events were by their very nature “live” and so increased the risk of unexpected problems or eventualities – effectively increased the potential for counter-programme elements to appear. In response, management had to be increased, as can be seen in this description of how the live

cinema, museum management, social media and web teams worked together:

[We had] a kind of control Centre downstairs, we had a feed from the broadcast truck into the back of a TV monitor so we could actually watch it happening, because we couldn't be in the space. We actually did have somebody in the space actually taking some behind the scenes photos, and he'd come back in sometimes and hand them over. We also had, I can't remember who it was actually, we had a curator on hand in case we got questions. I remember with Vikings we defiantly had the project curator. I think they were in that room as well because he wasn't needed, he'd been doing more presenting on the children's one but for that he was back in. So if someone asked a question we had someone on hand to answer that, so yes that got managed as well. And we also just had a few senior managers from the museum as well who just wanted to see it, and they didn't want to go to the cinema so we had to look after rather senior people as well. (Cock, 2015)

Additionally the content of the live production also included pre-recorded elements, allowing the production team to maneuver around issues that might arise, as well as deal with planned changes in focus, equipment change over etc.

So if you think about it, it's live but in the same way *Strictly Come Dancing* is live, it has a structure, its been rehearsed. About 50% of it's been rehearsed and pre-recorded, so you've got a mixture of people, the presenters standing in



the exhibition. Now some of that was filmed live, some of that was not filmed live actually because it was difficult for the exhibition space. Some of those spaces were very tight and you couldn't film people easily without getting sound equipment, the lighting, all the things in the shot. So those were done beforehand where you had more time and could do things to avoid some of that. And the other bits were reasonably well rehearsed. It's not like Strictly Come Dancing where actually you don't know who's going to win. It is in a way where they go 'well let's go and see a rehearsal' or something like that, or 'here they are in the judge's house' or something, you know we would have done in the week before or whenever, it was some kind of preset. (Cock 2015)

At Brighton Museum, the programme of the project was encapsulated in the vision statement included in funding and tender documents:

"Our vision is to realise the potential of Brighton Museum's World Art collection to tell 'World Stories' which engage young people and promote cultural understanding." (RPM ITT 2011)

To "engage young people" took the form of a series of "workshops" throughout the project's production process. Workshops were time limited events where a group of young people would meet with museum staff, and/or people from the museum's supply chain – either in the museum itself or at another institutional or organisational setting. These events included sessions at Patcham School, Brighton

& Hove Albion Football Club, Whitehawk Youth Arts Group and the R.A.S.P (Refugee and Asylum Seekers Project). The museum also formed its own “Museums Collective”: a group of 16 – 21 year olds brought together as an “advisory group”. By making use of these (largely) already existing networks, the museum was able to access more young people with a variety of backgrounds, but each contact with other organisational entities added another actant, and another modification of the programme, to the network. With three points to a triangle – museum, young person and organisation – three different motivations needed to be negotiated and this interaction repeated again and again. The scale of this work would have been unmanageable for the resources of a museum and so strategies were arrived at to navigate through the different desires of the network with young people. These strategies focused on enrolling the young people as creative production workers for specific gallery and media content, shifting away from the overall design of the gallery:

I had this idea that we would work with one group of young people over the overall gallery design and they'd be involved in every aspect. Hazel [Welch – youth worker] said you can't assume to have a group of young people, especially hard to get young people, engage for all that time. Better to work with them on specific projects – her feeling was very much and still is that its great to build an opportunity for young people to develop creative skills and have a creative experience. So that's what a lot of our youth engagement work became, about creating stuff linked to the generation of gallery content. So we used the Museum Collective who were less disadvantaged, more ambitious, motivated, articulate, young

to be college goers to give an overall steer to the development of the gallery. So we worked with much harder to reach groups on gallery content but then used them as a steer. But there was a bit of tension in that I suppose sometimes that wanted quite different things. (Mears, 2014)

The museum's curatorial team was ultimately the mediator between different groups' demands and desires, as illustrated with this example:

Well there was an issue about the table football. So it was the football group who worked with us on the football project, created a film for the gallery, talked about exhibits and collected stuff. They were really keen to have a table football set in the gallery but the Museum Collective felt it looked kind of patronizing and tacky. Ultimately we went with the table football. (Mears, 2014)

But, in fact, there was also "tension" within the museum staff about this aspect of the gallery, with unease from front of house staff about the table football interactive. This required considerable effort to negotiate with the "counter-programme" actants.

I had to go and negotiate with them as they didn't like the table football either, so somebody must of been quite keen on it. It's very difficult to get our front of house staff together and get a meaningful discussion because of shift patterns and the need to be on the floor. What it came down

to is – before the gallery opened taking people around, doing briefings, and I did, in particular, go to their meetings. They have morning meetings, and I certainly went to a couple of those with a list of interactives and consulted them as to potential problems. And I think with the table football, for example, I negotiated as they were quite worried about it. They thought there would be violence and it would be a bottleneck and stop visitor flow. So I said why don't we just get one and try it so I brought a cheap one and put it over the gallery one Christmas or something and it was fine. (Mears, 2014)

Ultimately, internal evaluation of the project undertaken by the museum shows (in Actor-Network Theory terms) that the programme of having a gallery created by young people had been significantly diverted by the counter programme of difficulties introduced by decision making and timescales.

There was a sense of frustration that the model of co-production hadn't been as fully realised as the team would have liked. It felt to some that the process had still been curatorially-driven rather than driven by young people and that delays in making decisions about gallery content reduced the time available for the engagement work. Delayed decisions about content and revisions to how this content was going to be presented also complicated relationships with young people. (RPM evaluation, 2012)

Less difficult for the museum in this project was working with the Access Advisory Group. Like the Museum Collective, this group had been formed by the museum itself, with the intent to form a group of people with different disabilities and impairments. The gallery design brief described the group's members as:

...representing the experiences and championing the needs of visitors with a range of disabilities, including learning difficulties, mobility restrictions, and sight and hearing impairment. All have a well informed perspective, and experience of advising museums and visitor attractions on the development of new permanent and temporary exhibitions. (RPM brief, 2011)

Accessibility, as a set of protocols for exhibition and media design, was defined from the outset of the project, and brief requirements were accompanied by lists of access requirements. For example, the brief for the Burma display included requirements for :

Accessibility :

- subtitles for film
- use of strong visuals
- Limited use of text; text in large font size and accessible language
- uncluttered space and display
- hands-on opportunities (RPM brief, 2011)

Surface Impression, the supplier of digital media to the project, had made a feature

of its experience in accessibility in its proposal document. In their proposal, the second production methodology proposed was titled “Closed captions, British Sign Language (BSL) and other accessibility considerations” and was the most detailed description of the whole methodology section. In particular, the company made a point of leading the section with a description of the disability groups and organisations it had already worked with:

We work with a wide range of disabled-led groups and projects, including Disability Arts Online, Inclusion London, Accentuate, Blue Touch Paper Carnival and the Creative Case for Diversity. Our work with these organisations gives us a wealth of real life experience in providing practical and effective accessibility in digital media, rather than just “ticking boxes” against a list in a set of standards (important though they are). (Surface Impression proposal 2011)

By doing this Surface Impression was making use of its existing network to bring additional credibility to the proposal – in effect offering up the network generated over the course of the company’s history to be part of the museum’s network in available skills and resources for the World Stories project.

Once engaged, Surface Impression was responsible for the development of a “kiosk” computer that would give access to a set of audio and video (either already on display in the gallery or additional content) and for the audio and video itself. The additional content was proposed to be accessed on the visitors’ own devices via QR codes to be distributed around the gallery space.

In its proposal, Surface Impression advocated the use of open source web technology, rather than bespoke software as the technical platform for the project. One of its arguments was that this would allow for the same content from the same source to display on the rapidly expanding number of mobile devices available:

The user interface will be built in HTML5 with contextual ‘media query’ stylesheets that react to the ‘device’ that the viewer is using to change layout appropriately (eg kiosk, mobile, iPad). We would like to avoid Flash and Director altogether – as many smartphones cannot support these technologies. We believe the project will be easier to implement and more sustainable if only one system is used to deliver content to all means of consumption. (Surface Impression Proposal 2011)

The use of a single platform to distribute all the media from the exhibition was a strategic move that sought to automate the negotiations between media playback devices brought into the network. A project that anticipated the use of media on the user’s own mobile device must also anticipate the inclusion of myriad technical specifications – processing power, screen size, operating systems, connectivity and many other factors vary enormously from phone to phone and tablet to tablet. The nature of each individual device was very difficult to anticipate and the proposed lifespan of the gallery (10 years) meant that future developments in mobile media technology also had to be included in the technical approach. “Media queries” are a function built in to cascading style sheets (CSS) – the layout engine that sets the graphic design of most web pages. The function of media queries is to allow the developer to set variations in style that depend on the nature of the device that

is viewing the media. So a certain column layout and set of typeface sizes can be used for a large screen computer (such as a desktop machine) and a different layout and smaller type for a handheld mobile phone screen. A tablet such as an Apple iPad may have another column layout and perhaps a variation in navigation style. Media Queries were first drafted by the World Wide Web Consortium (the industry body that sets international web technical standards) around the turn of the 21st century (W3C, n.d.) but did not become accepted into the CSS standard until 2012 (W3C n.d.) – a month after the World Stories Young Voices gallery was launched. By including the as-yet not standardized Media Queries specification in its proposal, Surface Impression was making two key bets – firstly, that the technology had sufficient momentum among web developers to become a standard; thus something that could be relied on to persist in web browser technology over the long term and secondly, that Media Queries would make the content appear in a usable and accessible manner on the majority of (as yet unknown) mobile devices without the need for custom development for each one.

Although the technological approach of the proposal was accepted without comment, there was negotiation regarding the approach to accessibility. Surface Impression had stated that “We have good contacts with a number of BSL interpreters, several of whom are experienced in working with film” but had not offered a particular supplier for British Sign Language interpretation. Before appointing for the digital development role, Royal Pavilion and Museums (RPM) enquired if Surface Impression would be willing to work with Remark! – a supplier of BSL translation and interpretation based in London (Royal Pavilion & Museums, emails, 2011). The desire to include Remark! in the production network came from the Access Advisory Group; curator Helen Mears recounted that “We were quite emphatic – the Access Advisory Group wanted to use the company Remark! to



do all the captions” (Mears 2015). Having already worked with Remark!, Surface Impression readily agreed and RPM went ahead with the decision to appoint the company.

With the proposal accepted, and the commission in place, Surface Impression embarked on a production process that was very similar (at the outset) to standard website production methods. The initial exchange of graphics between company and client was in the form of wireframes. These schematic layouts are common in web (and other digital media) development processes and are used to establish the relative position of content elements (such as images, video, text etc.) and functional items (buttons, navigation, forms etc.) on the screen. Wireframes are so named because they are created without colour or the final font choice, but instead represent items as black and white boxes – the “wire” “frames”.

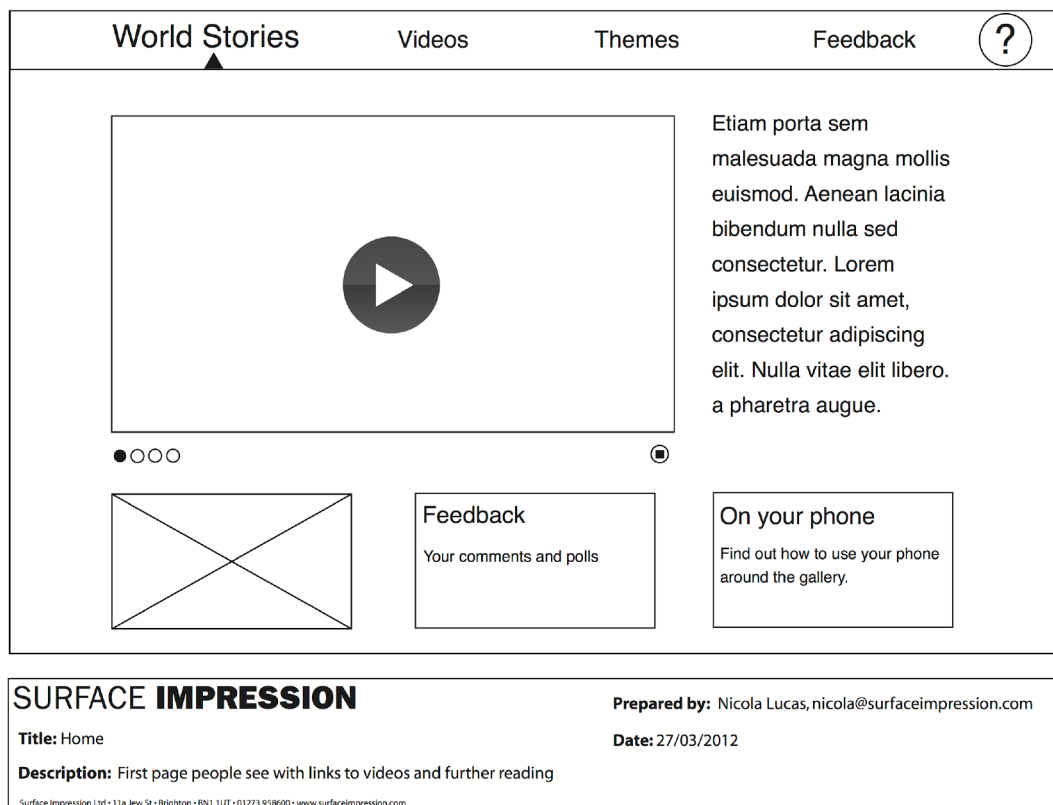


Figure 6.7: Wireframe showing proposed Kiosk home screen

Once the wireframes had been discussed with the client, and changes included in the design, the next step was to produce design “flats” – a series of graphics that represent the proposed screen media playback, without being a functional, coded, interface.

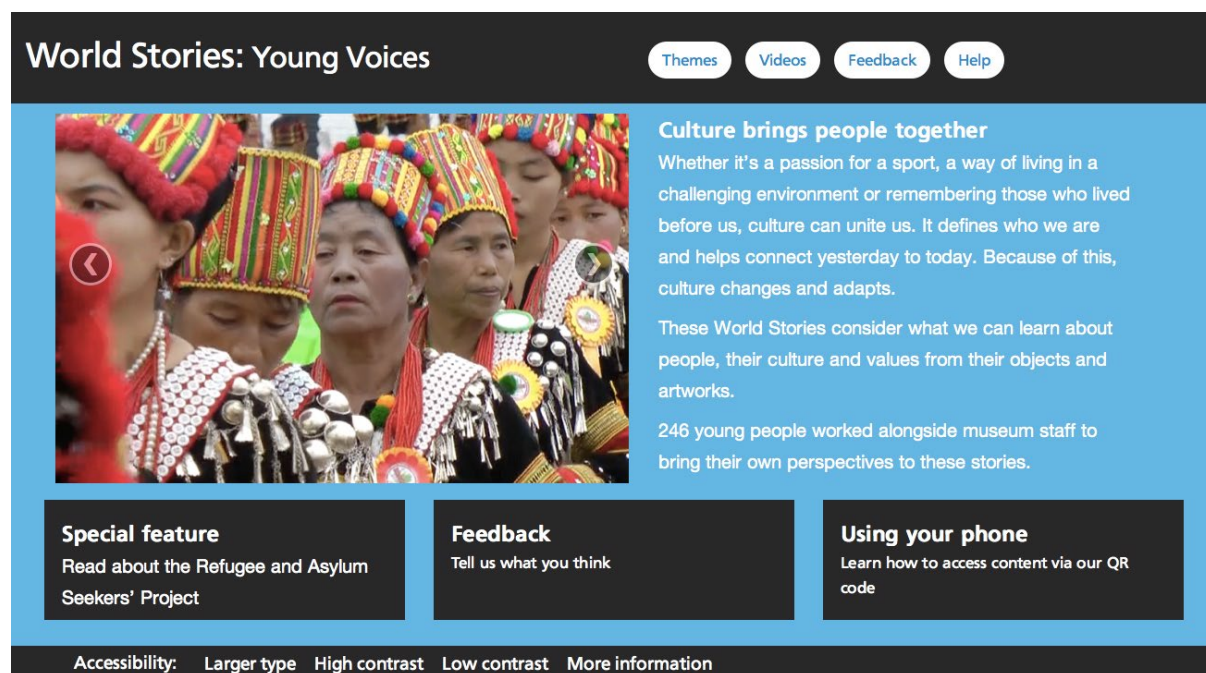


Figure 6.8: Design for Kiosk home screen

We can see from the flat that was produced for the kiosk’s home screen that most features have survived from one stage to the next, but that engagement with the Access Advisory Group has had a number of influences – most notably in the strip of access features running across the bottom of the screen. The proposed functions added would allow a visitor to increase the type size of the screen and change the coloration of the elements – either to make the contrast greater (to aid people with sight problems) or to reduce contrast (beneficial to many people who have dyslexia).

The most visible design impact of accessibility was to be found in the videos that

were produced. Some of the videos are presented on screens that are embedded into the panels of the gallery space, others are only available through the kiosk or the visitors own devices. Each film carries both captions and BSL (British Sign Language) translation. Adding BSL to a film creates several new nodes of negotiation – including those between film producer and BSL translator, between screen dimensions and the film of the person delivering the translation and between project managers of several parties.

The film producer and the BSL producer must negotiate to establish the mutually agreeable format for the BSL to be introduced into the film. In the case of Remark!'s work with Alto Films (supplier of film-making to the World Stories, Young Voices project), the decision was agreed to supply the BSL in QuickTime .mov format, at HD size, with an alpha channel. So in this negotiation, as in every part of the production network, we can see that one interaction between actants reveals another, “deeper” level of networked actants, that become part of a “black box” if accepted by enough entities in that part of the network. Quicktime is a digital file format established by Apple that usually is saved with a “.mov” file extension on computer file systems. HD stands for High Definition and denotes a screen area of  $1920 \times 1080$  pixels. An “alpha channel” creates an area of transparency in a film, allowing a movie clip to be overlaid on top of another video source. In the case of the BSL, the signer was the only opaque element in the video, all of the rest of the background was transparent therefore allowing the BSL to be “composited” over the original film. Alto and Remark! accepted this as a technique, assuming that the Black Box of video editing software (in this case Apple's Final Cut Pro) could deal with the created video “assets”.

A film captured on an HD camera produces a video of 16:9 proportions, with an

area of 1920 x 1080 pixels. Overlaying a BSL translation onto this screen forces a new negotiation – that of areas of the screen. If the original film is displayed at full size, then the BSL signer’s figure will obscure some part of the picture. Additionally, movement and action in the original film, in the same approximate area that the signer occupies, may make it difficult for a Deaf viewer to understand what is being communicated. As a solution, the original film may be reduced in scale and the BSL placed in the resulting “blank” area. However this solution can reduce the impact of the original film. As part of the World Stories, Young Voices film production, the decision was arrived at to partially reduce the original film, and to overlay the BSL half over the resulting “black space” and the film itself. The signers wore black tops to blend in with the space, but left their arms bare to increase contrast and “read” of the signing.

This smaller reduction of the original film allowed it to retain much of its impact, and still work reasonably well when viewed on small (e.g. mobile phone) screens. The reduction was scaled from the top left corner of the film, and so, naturally, revealed a strip of black underneath the video as well as to its right. This was used as the location for captions, allowing readers to enjoy a greater degree of contrast than found with captions that are overlaid over the moving image.



Figure 6.9: BSL translation position on film layout

Introducing BSL into the video production also creates a point of negotiation between project managers. A video file that has no captioning and no BSL can continue to be edited throughout the production process, with final edits not due until days (even hours) before installation into the gallery's media players. However, with BSL, a "dependency" in the production programme is created – the film must be finished to the point where its spoken content and its timing are fixed enough to create a transcription. The text of the film must not change from that point, or the transcription will be wrong. The BSL is then filmed, using the transcription and the original film itself, then supplied back to the filmmaker to be composited into the final production. Therefore, the production company's project manager must establish an earlier completion date for the film and organize transcriptions. To achieve this, they may have to negotiate with the gallery development team to secure content earlier and to get sign off on the film earlier. The BSL translation provider's project manager must ensure the film is picked up in good time, that the

transcription is signed off and ensure delivery of BSL by a key date. The resulting parts must then be composited and finally installed in-gallery.

The Access Advisory Group also had a key influence on the presentation of in-gallery graphics:

Well [the responsibility for designing the graphic style] was surprising. It came from the Access Advisory Group. With each main graphic we took some examples to them to get their feedback, and what they said they wanted were ones that started with a quote – something really active that grabbed you – and then ended with an active question. So they were quite emphatic. That was pretty much the template we followed, some kind of starting fact, some structure, then a ‘what would you do?’. So we went through that very painful process for the main graphics and then after that I think we ran out of time. But I felt that having gone through that process, I had a clear sense of the approach we were taking. Then people actually working on the stories wrote the text, combining young peoples voices wherever they could. Source community voices were then sent to me and I edited it all [together]. Other than that it was really stressful, I really enjoyed it. I suspect the project team members did find that quite difficult, but I did really try and follow the process that had been established in discussions. (Mears, 2014)

The Access Advisory Group also tested technologies and suggested alternatives:

They [The Access Advisory Group] tested the QR codes for us, a very painful experience with [group member] Diane having no sight. I had to see if she could align her phone with the QR code – not obviously – and of course they helped lead us to the RNIB Pen Friends which we use to provide audio description. (Mears, 2014)

In the gallery's planning for media, additional material was to be made available via visitors' mobile phones, with QR codes acting as triggers. But as the interview excerpt above demonstrates, the use of such a visual means of accessing content is going to be next to impossible for somebody who has no sight. By Mears interacting directly, in an experimental situation, with Access Advisory Group member Diane – and with Diane's phone – the potential poor quality of experience for anticipated future visitors to the museum was foreseen. A new piece of media technology was adopted, the RNIB Pen Friend. These are devices that are shaped like an oversize pen, carrying an audio player in the body of the device and a Radio Frequency Identity (RFID) scanner at the tip. Touching the tip of the pen onto an RFID tag (supplied as sheets of stickers with the device) triggers playback of the audio. The intended use of the Pen Friend is for domestic settings, as a tool for blind and partially sighted people to use to label products and other items around the home, but around the time of the World Stories, Young Voices project, some museums had started to co-opt the technology for gallery settings, one of which being Hove Museum, part of Brighton Museum's parent organization Royal Pavilion & Museums, Brighton and Hove. However, finding the tags in a gallery space is no easier than pointing a phone at a QR code you cannot see, so a system of thick

cards containing raised shapes, was devised to guide blind and partially sighted visitors to the right audio – a visit would start with the Pen Friend and book of cards (mounted on a lanyard) being handed to the visitor at the front desk. They would then proceed through the gallery space, working their way through the markers card by card. Each audio recording contains a short section of wayfinding information, followed by interpretation of the objects on display.

In this set of interactions between actors around the Access Advisory Group, we can observe a number of programme and counter-programme events. The acceptance of the need to influence the project programme, to improve accessibility of the results, was part of the museum's strategy from the outset, so negotiations between staff, Access Advisory Group members and suppliers were entered into willingly. However the impact on plans was high – everything in the gallery space was influenced by the group – the appearance of the wall graphics and the information panels changed, the lighting and presentation of objects changed, the media used in the gallery changed and an entirely new, previously unanticipated, media technology was introduced into the space.

Working with the Access Advisory Group was viewed very positively, with internal evaluation stating:

The group was acknowledged to have had a profound and wholly positive impact on the design and development of the gallery. The project team's work with the AAG was described by one member as 'a pioneering moment for this organisation'. (RPM evaluation, July 2012)



## Hidden actors / black boxes

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As we have seen, the network of a museum media production is filled with actors and actants that are mobilized for the programme. Many of those nodes are very visible to the actors – the design company is a known entity; the museum director and front of house staff are familiar presences; the funding bodies have been thoroughly engaged with, and their application forms are still a painful memory to the project lead. However, any person that is brought in, any tool that is utilized, any protocol that is adopted, comes attached to its own network or networks. The new network may be visible too – for example, a funding body may be clearly an agency of a government – but other actants are brought into play that may have a significant influence on a project, without being clear to the other participants at all.

Graphic design is typically a key part of any visual media production – app screens, wall panels, film titling and captions all require a series of design decisions to be made. Even if a work is produced in-house, without the aid of a professional designer, decisions are made to choose a typeface, the relative positions of one element to another, the process of the viewer / user / reader through the medium and so on.

If we take a look at just one screen of the Southend App, we can see a variety of decisions that went into the layout. Some of the decisions stem from actants that we recognize from previous descriptions – Clare Hunt decided to feature a particular image from the collection, the artist L W Walton decided to paint a picture of the interior of a church in Leigh, Essex. But Apple's Human Interface Guidelines (HIG) are also in the mix – they are responsible for the style and position of the “Back” arrow, they set out the nature of the navigation bar at the bottom of the

screen and the means of communicating the WiFi signal, amount of battery left on the device and the time of day at the top. Apple's decisions are "handed down" from other decisions made by people in their own networks, people (along with hardware components, user tests, prior experience, corporate cultures etc.) that the museum has had no contact with. Even the app developers have minimal contact with these decision makers – their access is generally through online guides and rules of submission; the translated mobilization of Apple's intent to harmonise the way apps work on the devices that they manufacture. Using the mobilized form of the HIG, Apple translates digital designers and developers into their own network, using idealistic language to interesse and enroll – "...everything you need to design beautiful, engaging apps that radiate power and simplicity" (Apple n.d.). In turn, the developer attaches Apple to the museum's network by utilizing the decisions embodied in the HIG.

Other design elements stem from decisions with less clear provenances. Icons, for example, only become meaningful items of communication if enough people come to understand their meaning. To become established, these graphical elements must go through a network process themselves – creation by an original designer plus repetition by other designers in different productions. But those designers, making the decision to utilize an icon, must negotiate with their intended audiences, who initially are very likely to be confused by the new graphical device. That negotiation may take the form of accompanying labels, where the function that the icon is meant to represent is literally translated into text. If the graphic survives this negotiation, and its meaning becomes widespread through repetition, then the icon can be used alone – the effort of graphic designers has been mobilized into a device that can communicate an expected function in a space-efficient, universal manner. The exchange is both material (by pressing the icon, the user accesses the function

they expect – in the Southend App example, a heart symbolizes the “favouriting’ of artworks) and semiotic (meaning has been made).

These are just a few examples of the hidden networks that attach themselves to a media project. There are many more of course – including the hardware that must transmit and receive the media. In the case of the app, the mobilized hardware is, appropriately, a mobile phone. Break a phone apart and we find casing, screen, chips, speakers, boards, antenna, wires, plastic, solder and myriad other elements. Each of these have networks that stretch back through manufacturers, distributors, corporations and industrial designers to miners and material wrested from the ground. The networking capabilities of phone mobilizes servers, optical fibre, satellites, undersea cables, radio waves and other electromagnetic phenomena, plus all the human and non-human effort it takes to put those facilities in place and the maintain them. However, we cannot hope to describe all of these overlapping and intersecting networks in one study, without becoming hopelessly overwhelmed. Equally, the mobile phone has a network that is relatively settled, or in ANT terminology, punctualized. The smartphone is an actant in our network that has a reasonably permanent material nature, and can be expected to perform functions in a predictable and consistent manner. Therefore we can call the phone a “black box” – an item that we do not need to break apart to examine. As Latour says, a black box is an item that is “technical work is made invisible by its own success” and that “the more science and technology succeed, the more opaque and obscure they become” (Latour, 1996).

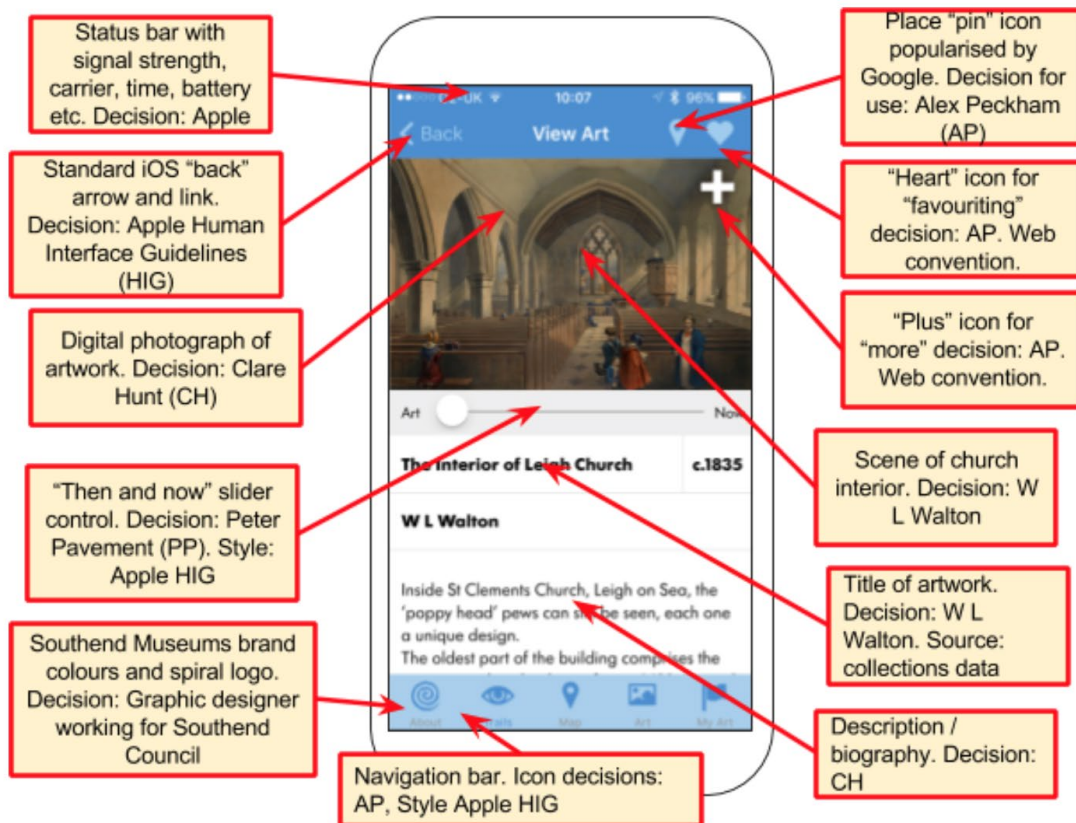


Figure 6.10: Layout analysis of Southend Museums app screen

Another actant in museum media production networks that can be described as a Black Box is funding. Funders in the UK, such as Arts Council England and the Heritage Lottery Fund, tend to constitute funding into “grant programmes” – set schemes that have published eligibility rules and standardized procedures for engagement with the funding body. The museum must make its application under one of these schemes, bending its application to suit the rules of engagement. Prior to submission, discussions with funding body staff and with fundraising specialists (in-house or freelance) can shape the text of the application bid, but the application itself and its assessment is a fixed process. The museum compiles its answers to an unchangeable set of questions and then submits these answers either via a standardized document or, increasingly, via a web-based form in a dedicated “portal” provided by the funding body. In this way, the programme of the

project idea is transformed into a mobilized actant: the funding application. Once submitted, the museum has almost no agency in the assessment process – the bid is assessed alongside many other bids, using set criteria established by the funding body, and the only opportunity the museum will get to negotiate with the funding body is if queries are sent through from the funder if they need more information on any point. But in general terms, a funding bid is submitted, it is assessed and it is transformed into one of two things – a yes or a no.

One off funding opportunities also arise from time to time, as is illustrated by this description of the funding of the World Stories, Young Voices project:

Around that time they announced the Stories of the World Initiative which was a London committee for Olympics and Paralympic games, and what was an MLA [Museums Libraries Archives Council – now disbanded] initiative as part of the Cultural Olympiad which had been part of London's Olympic bid. They were going to bring lots of culture and engage young people with the Olympics and offer cultural opportunities. So it felt like a perfect fit to us because it was all about a welcoming to the world working with young people as co-producers, co-curators. It felt like a perfect fit so we politically maneuvered ourselves throughout any competition to go for that strand. I think there were other interests in the South East who wanted to do and as often happens Brighton kind of stuck its heels in, and we were the best fit really. So we got to go forward whereas other parts of the country they had little consortiums with groups

of museums, and we just did it ourselves, so yeah it came from that really and it was just given momentum by the whole Stories of the World stuff, business plans and bits of bureaucracy. (Mears, 2014)

Each of the case studies are media production projects, and, as such, each has the goal of creating one or more black boxes. The British Museum's Pompeii app or Southend's Art Trail Explorer are products that do not reveal their inner workings – they are just apps. The in-gallery media at Brighton Museum or the Cooper Hewitt should “just work” or visitor perceptions will be negative. The live cinema productions of the British Museum offered a transparent window onto the two featured exhibitions – but, interestingly, did so while revealing some “behind the scenes” aspect of the museum. By creating a theatrical representation of a “private view” and presenting aspects such as archaeological processes and conservation, the content of the productions prised apart the black box of the museum just enough to offer a glimpse into its workings. Access to privileged information, and a privileged social event (the private view) was given a further perception of authenticity by being offered as “live”, despite the fact that 50% was rehearsed and prerecorded (Cock, 2015).

In the undertaking of the projects, however, there are other black boxes that are sometimes created, and these are not intended to be perceived by the audience of the media outputs. For example, Surface Impression's content management system (CMS) was adapted to become a delivery mechanism for both the in-gallery, and online media for the World Stories, Young Voices project. Although pieced together from code, databases, computer hardware and communication networks, the CMS was a black box offered to other production network participants to help them

organise their text, images and video files. This idea was taken a large step further by the Cooper Hewitt's API (application protocol interface). Their API was created to act as the bridge between the Cooper Hewitt's collections data and all its media outputs – website, in-gallery interactives and their Pen. The API was a key focus of work for the in-house team (Chan, 2015) and its development was negotiated, step by step, in reference to the suppliers who were making use of it. Production was described as “agile” with “continuously releasing, continuously making things” (a core agile project management concept), that allowed suppliers such as Local Projects to also continually develop their work (Chan, 2015). But eventually, the API stabilised sufficiently to become a black box – the obligatory point of passage through which other media applications must pass to access the core museum object records. Chan himself described the nature of the API, almost paraphrasing ANT, in a 2014 blog post:

Beneath our cities lies vast, labyrinthine sewer systems. These have been key infrastructures allowing our cities to grow larger, grow more densely, and stay healthy. Yet, save for passing interests in Urban Exploration, we barely think of them as ‘beautifully designed systems’. In their time, the original sewer systems were critical long term projects that greatly bettered cities and the societies they supported.

In some ways what the [Cooper Hewitt] has been working on over the past few years has been a similar infrastructure and engineering project which will hopefully be transformative and enabling for our institution as a whole.

Underneath all our new shiny digital experiences – the Pen, the Immersion Room, and other digital experiences – as well as the refreshed ‘services layer’ of ticketing, Pen checkouts, and object label management, lies our API. There’s no readymade headline or Webby award awaiting a beautifully designed API – and probably there shouldn’t be. These things should just work and provide the benefit to their hosts that they promised. (Chan, 2014)

Conclusion:

## **Opening black boxes**

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In this chapter we can see how Actor-Network Theory’s analysis of network building can be deployed to help understand the production of museum media. Callon’s four moments of translation help us to see how actants become something that is useful to the programme of the projects. Latour’s socio-technical graph reveals that the same programme must be deflected in its course by the members of the Network – both “inside” and “outside” the project. By combining the four moments with the socio technical graph, we are able to diagrammatically reveal how mobilization (the translation of actants) is the key mechanism in the progression of the programme. Since the project programme is, by its nature, deflected by the actants found in its Network, we have also attempted to reveal some of the hidden actants that are shaping the projects’ media outputs, and to explore the black boxes that are involved – the results of previous Network programmes that have become sufficiently defined and sustained to be treated as actants in their own right.



## Chapter 7

# Working with a new medium: Uncertainty, instability, intensification

**A**s we have seen, museums have been producing media since soon after they first opened their doors. As Chapter 2 showed, from then until now, they have been enthusiastic adopters of novel forms and formats of media, undertaking experiments and implementing technologies in order to serve their mission as an institution.

Aware of this longer (and defining) context of new communication technology arrival into the museum, this thesis has aimed to investigate the key factors that make the incorporation of novel media forms and formats into museum practice different from production of older, more established media. During this study, through assembling four rich case studies and applying a consistent (ANT) analytical lens to each, it has become apparent that three aspects accompany the adoption of novel forms and formats when compared to long-embedded production processes: there is a greater degree of uncertainty; projects are less stable; and activity is

intensified. And it is the qualities of each of these aspects that we now consider in greater depth.

## Uncertainty

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When tracing the networks of actors in museum media production, the five uncertainties of ANT methodology are amplified by the choice of a novel media form or format. In these situations, the museum is placed in a position of innovation – either at the level of their own organization (the museum “tries” a new medium for their own purposes) or at a more general media technology level (the museum “develops” a new medium – that others may also use). By interacting with new technologies, the network contains fewer actants that can be treated as punctualised “black boxes” – as Latour explains:

In situations where innovations proliferate, where group boundaries are uncertain, when the range of entities to be taken into account fluctuates, the sociology of the social is no longer able to trace actors’ new associations. At this point, the last thing to do would be to limit in advance the shape, size, heterogeneity, and combination of associations. To the convenient shorthand of the social, one has to substitute the painful and costly longhand of its associations. The duties of the social scientist mutate accordingly: it is no longer enough to limit actors to the role of informers offering cases of some well-known types. You have to grant them back the ability to make up their own theories of what the social is made

of. Your task is no longer to impose some order, to limit the range of acceptable entities, to teach actors what they are, or to add some reflexivity to their blind practice. Using a slogan from ANT, you have ‘to follow the actors themselves’, that is try to catch up with their often wild innovations in order to learn from them what the collective existence has become in their hands, which methods they have elaborated to make it fit together, which accounts could best define the new associations that they have been forced to establish. (Latour, 2005)

In these situations, we must also break apart the black box of the museum, moving our focus to the museum practitioners themselves, and how they are able to negotiate the innovation embodied in the network’s programme. But once they have accumulated technical know how, knowledge of practice and audience, and other insights from their experience, the transmission (translation) of that learning to the institution (its people, its protocols, its practice) is also uncertain.

Sejul Malde, of the cultural sector development charity Culture24, describes the difficulty of bringing back learning to museums from R&D mini-projects undertaken by museum professionals as part of the Let’s Get Real Programme (a skills development and mentoring programme for cultural sector organisations):

It’s very difficult for [innovation] to feedback to the organization and the organization to change, unless [the museum professional] is very proactive, and has a certain profile, and is very kind of enthusiastic about taking that

learning on to other work. And I'm not saying that doesn't happen, but I guess with this sort of project there's a sense of enthusiasm while it's on, but once it's over it's very hard to think how learning can embed itself. This time around, in Let's Get Real 4, we're trying to get the participants to involve other people from their organization in the experiment, so to not only test out some of those challenges via internal collaboration but to get more organizational focus on the experiments. It isn't just the work of one participant; just their view; just their thinking but instead it's a kind of shared thing and hopefully that goes back a lot more easily into the organization. I think we should think about how that works, going forward how we embed it. (Malde 2016)

A museum is an institution that places the object at the heart of its activity, and as we have seen in this analysis of the media production in the case studies represented here, the non-human is equally important in the formation of the project as the human. "Object" represents many non-human entities – from the all important "device" – the window that mediates through to the object from the collection. Less visible to the observer are the objects that are mobilized to make the project possible – the protocol that determines the curator's approach to the text, the outside broadcast truck that relays film to the cinema during the live event. But each and every one of these objects have one thing in common, they are the result of another network of humans and non-humans, every item is a former project.

In this way, time and space are reduced in relevancy. The continual making of the network reduces these factors to simple attributes of the actants. A museum

mediates objects – taking the punctualised product of another project, perhaps undertaken in a far away locality, and makes it firmly part of the current project. Awareness of the eventual production is unnecessary, so an object (incapable of thought) is on equal terms as a human (who has no way to know what to think!). For example, the maker of the harpoon blade fabricated in the Arctic decades ago had no idea that their work would be part of a museum on the South Coast of England, but they are just as much part of the network as the school children who copied the figures (that were engraved into the bone of the harpoon) and turned them into a three minute animation shown in the World Stories, Young Voices gallery. As they produced drawings and operated stop motion photography during a workshop, the school children had little idea of the outcome of their production, making their agency about as cognizant as the harpoon-maker. The harpoon is an actor that translates the school children and the Copper Inuit maker into a moment for the gallery visitor. The archaeologist filling voids in the volcanic strata at Pompeii with plaster of paris had no idea that their effort would later become part of a CGI production in 2013, but the effort is embodied in those twisted figures that became such “iconic” representatives of the Pompeii story. This reflects a central concept to Actor-Network Theory, that members of the network are at once material and semiotic – the object is both a material artefact and a collection and communicator of meaning.

## **Instability**

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Any engagement with technology risks the failure of that technology, either temporarily or in the long term. A project's programme may rest on an actant that, known or otherwise, makes itself an obligatory point of passage. At Brighton

Museum, the World Stories, Young Voices gallery development went ahead in room, deep inside the museum, that was all but impenetrable to the data networks provided by mobile phone networks. At the same time, a significant part of the media strategy was to provide additional content via visitors' own mobile phones. In order to do so, the visitor would have to be able to connect to the internet by some means – without a mobile data connection, that means could only be WiFi, provided by the museum itself.

Provision of WiFi throughout Brighton Museum was an idea that had been discussed many times over the years, but fell under the remit of Royal Pavilion & Museums, Brighton & Hove's parent organisation Brighton & Hove Council – and within that organization under the purview of the council's IT department. Movement on selecting a supplier, let alone installing equipment within the gallery space, was far behind the anticipated schedule and by the time that launch of the new gallery was just a few months away, it became clear that there would not be any WiFi in time. The World Stories, Young Voices production network was unable to recruit the IT department to their cause, no actant within the network had the negotiating leverage to bring the installation of WiFi up the Council's priority list.

In the end, a technical solution was proposed to act as a “workaround” for the lack of connectivity. Surface Impression created a local network, run from the in-gallery kiosk computer, that mimicked the internet as a whole. Through a considerable expenditure of effort and experimentation into technique, Surface Impression created a means by which visitors could connect to the web content held on the kiosk, without having to know that they were not connecting via the internet. This worked well until the visitor tried to use any other web-based service, when they would discover that also was redirected to the kiosk content. Several visitors left

comments objecting to this state of affairs.

The word “workaround” is very apt – the obligatory point of passage, internet connectivity, had become blocked, and the network was forced to work around this node in order to complete the project.

In Chapter 3, we explored product lifecycle models, and used the QR code as an example of a technology that conforms to Gartner’s Hype Cycle. At Brighton Museum, the use of QR codes was advocated at an early point in the project’s conception. Museum specialist media company Centre Screen produced a report for Brighton Museum that described the potential of QR codes as a trigger to access further content within the gallery (Centre Screen, 2011). Looking at our hype cycle graphs, this was during the upward slope of the “peak of expectation”. Optimistic statements about anticipated usage were made, including:

As this gallery area is being developed in collaboration with young people it was felt the use of mobile and web technology might be particularly appealing to them” and “Overall there is genuine excitement from the young people about accessing content in this way (Centre Screen 2011)

However, even at this point in the cycle, the limitations of using QR codes was becoming more apparent. The same report warned that lack of WiFi connectivity was a serious barrier to these particular ambitions of the project, and at the same time, the mainstream device manufacturers (including Apple and Samsung) were reluctant to include QR code scanners as built in functionality within their phones and tablets, thus throwing up a barrier in the way of potential audiences. A person

who might be inclined to use a QR code would have to download and install a QR code scanning app on their phone first.

By early 2012 these counter-programme aspects were becoming more prevalent in discussions around the technology. Surface Impression was worried enough that the QR code aspect of the gallery might be a failure and so the author lobbied for the codes not to be embedded in the gallery graphics. Minutes from the production meeting of 29th February 2012 report:

PP highlighted a concern that the QR code technology could be obsolete within the 10 year lifetime of the Gallery. Redman therefore need to take this into account in respect of the graphics design to ensure that the QR code can be removed if necessary at some point in the future without having a wider impact on the fit out of the gallery. There is also a concern that should the WIFI provision change over time this could change the format of the QR codes, it was therefore agreed that the codes need to be planted on the graphics so that they are removable if changes are required.

(Focus Consultants, minutes, 2012)

Looking across our examples, what is it that enables a media product to survive in museum practice and what causes the network to fail? From our historical examples in Chapter 2, not every item is still prevalent in the museum, others are in some form or another; following the extended life cycle explored in Chapter 3. The Senster did not survive as an individual computing and robotics item, its sustainability as a working product was compromised by its high maintenance and



running overheads. In ANT terms, post-installation, the network reached a point where it could not continually renew itself – the expertise to keep repairing the robot and its software could no longer be mobilised to keep the Senster running – an obligatory point of passage, the museum management, was no longer prepared to pay for upkeep and electricity, and therefore activities to interest and enrol the appropriate personnel ceased. Other networks were making demands on the space that the Senster occupied – and so it was removed.

This observation drawn from ANT is crucial to understand the survival of media forms and formats – they can only be sustained by continual maintenance of their networks. To remain functional, and in use, a medium or media production must find an audience, be compatible with other equipment or protocols, continue to be supported by stakeholders, sustain its own component parts and so on. All of this requires continual activity – albeit at different levels of activity – and dissolution of the network is very possible at all points, and intensified by novel forms and formats. This intensification is borne out by comparing printed books with electronic media, especially those at the “cutting edge” of innovation. For example, access to a museum catalogue in book form is reasonably simple and stable – one just has to find and read the book. To access the content of the Stedelijk Museum’s audio guides is far more difficult – one would have to recreate the broadcast conditions that the guides used, including the magnetic tape that contained the programme, the induction loop that transmitted to the portable devices, and the devices themselves – essentially reproducing a large part of the socio-technical network of the guides, a project of daunting scale!

The case studies of this thesis also exhibit signs of instability. The media found in the World Stories, Young Voices gallery at Brighton Museum persist, and the

Cooper Hewitt's in-gallery and external media continues to perform well, but Southend Museums Art Trail Explorer and the British Museum's event cinema projects have fared less well. Southend's app is available in the Beecroft Art Gallery and through the Apple and Android app stores. In the gallery, the app was used to accompany an exhibition of South Essex art (via two kiosk-mounted iPads), to serve as a guide to the works on show. This did receive attention from visitors to the museum, but the downloads of the version from app stores has been consistently disappointing. As a network, the success of the app could be described as being limited by several factors, including that the focus of museum staff switched away from the app project and towards the move of the Beecroft Art Gallery to its new venue; Southend Council had no marketing budget or staff available to promote the app; the commissioning curator (Clare Hunt) moved away from Southend Museums to a heritage service; and the available audience in South Essex that were both interested in art and prepared to download smartphone apps was underestimated. These "missing" actants led to reduced "attention" – the app's network was not sufficiently strong to motivate the museum to undertake any more app projects or to promote the Art Trail Explorer further. In Hype Cycle terms the app had passed through the peak of expectation and into the trough of disillusionment.

The British Museum's live cinema events with Pompeii and Vikings were landmark activities, garnering accolades, prizes and press attention for the museum. However, no further live cinema activities have been undertaken since Vikings. Instead, the British Museum shifted to a recorded documentary format with their "British Museum presents: Hokusai" film, distributed to cinemas by More2Screen from June 2017. Although with many similar features to the live events, including being presented as a "private view" and the use of celebrity commentators to interpret objects, the critical "live" aspect of the film was dropped altogether.

## Intensification

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In an interview with the author, Nick Hewitt, Head of Heritage Development at The National Museum of the Royal Navy in Portsmouth, described the process of producing non-fiction books with a trade publisher:

Basically there's an editor assigned to you so you produce a proposal. The proposal goes to the editor. It then gets kicked around the organization, and you don't know who it's being shown to, but presumably there's a commissioning editor, that kind of thing. And then they give it the go ahead. They usually ask for a sample chapter of your writing for them the first time and then you really only deal with that individual throughout the process. Somebody else will tend to come along and get as far as designing covers so you get some sort of designer – usually a freelancer who will come back to you and say this is our cover layout with the text on the back, are you happy with your author bio? All that kind of thing. And it's the only time you have anything to do with them. You get involved again with a different person, there will be a picture editor if you're putting photographs in the book. So you will work with them usually only a few days, you know you have a delivery date for the photographs, you're given the photographs you have a conversation about the photographs. And you never have to deal with them again. And then at the

end of the process you work very closely with a proofreader or another editor proofreader/editor who will go through your text with a fine toothcomb. They are very variable.

The first book I wrote I had almost no feedback, which was entirely useless, whereas the woman who did my second book was fantastic. I had a really really good dynamic relationship with her, she was questioning what I'd written and asking me if I could understand it, would the reader understand it? And that kind of thing, it was really creative actually I like it. The difference is you're not presented with an entire team at the beginning, and that's the team you're working for your only really working with one or two individuals. It's a very solitary process actually. (Hewitt, 2015)

Book publishing is the museum's oldest "beyond the walls" media format and as such must be the most established production process. Hewitt is a museum professional with a great deal of experience in media production, having authored several books, and appeared as a television presenter. Even though his description of the process hints at or omits many of the actants found in publishing (for example, sales reps, printers, distribution companies etc.), it is clear that the production process is well understood, and relationships follow established practices and protocols.

Engaging with newer forms and formats of media technology increases the complexity of production for the museum. The smallest of our three case studies, Southend Museum's app production project was perhaps closest to a publishing project, curator Clare Hunt even stating:

I think a few years ago we'd more likely do a catalogue than an app of our artworks, so I feel like we have kind of published our work, our art, by doing that app really. (Hunt, 2015)

But this project put Hunt into the position where she had to have relationships with a different range of people and technologies than if she was publishing. She was forced to go back and forth with the Arts Council, who directed her onto the path of a novel format – the smartphone app. She had to go back to her colleagues and managers at Southend Borough Council to “sell” the app idea into the organization and renegotiate funding proposals. Once this was agreed she felt the need to be better informed and so went to a sector event:

Well, I went to a Museums Associations conference about using social media and accessibility. Anyway it was very timely, it was about the time we were applying and I thought well I'll go along to that and of course there were quite a few people toting their wares who did apps and guides and all sorts of things like that. (Hunt, 2015).

Once underway, Hunt became personally involved with every location of the artwork selected from her collection, she became an operator of specialist photographic equipment, capturing images of each place and negotiating with GPS satellites for latitude and longitude figures – all through a single camera. She was trained in the use of a content management system and took part in user testing with groups of people recruited through social media. All along, she tested the

app again and again, using her own phone and those of colleagues and she had to maintain a project management schedule and quality control process.

Had Hunt engaged with a publisher to produce a catalogue of the art, perhaps several of these activities would also have been undertaken. Perhaps Hunt would have still visited each place represented by the artwork and perhaps she would have photographed the location. She could also have carried a lot of the project management responsibilities. But it's clear that the Southend Museums Art Trail Explorer app still required a much more intensive production process for this museum professional – new skills were learned, several new technologies worked with and the sheer number of people to be dealt with increased.

With the two other institutions, the British Museum and Royal Pavilion & Museums, Brighton & Hove, increased engagement with ever proliferating media forms and formats has increased the amount of staff time required – to the point that specialist recruitment and restricting has been required. For example, at Royal Pavilion & Museums, Brighton & Hove, the Curator of the Photographic Collection, Kevin Bacon, was promoted to Digital Development Officer:

It was a completely new post. It first came alive in April 2011, so I've been doing the job for a little over three years now. Prior to that, no one individual member of staff had responsibility for digital or gave any strategic direction. And the main reason for having this post was so we could get to grip with some of those things. And there was an aspiration that it would become much more central to our business model, so now for instance in our current forward plan which

is like many at the moment working towards 2020, digital is a key part of our mission statement. (Bacon, 2015)

Once in post, a wide variety of projects ensued:

We've done smartphones apps, we developed the Brighton Museum app, really testing the waters for essentially what the demand is for an app that is a much more portable publication form of basic venue information as opposed to relying on connectivity to access the website which has worked very well. There's the Story Drop app, which was much more of an R& D project. In fact that's very much its origins in terms of what we originally sought funding for, which is a geolocation app about finding stories across the city. We also worked on a couple of projects experimenting with storytelling. Actually one of my favorite projects from the last few years was something called Murder in the Manor, which was inviting young writers from the Little Green Pig group, to sort of turn Preston Manor into a murder mystery using 360 degree panoramic photography. We've had some really good results from it, we have an average of 20-minute dwell time on the site, and there's nothing there apart from the Manor and young people's stories. We're adapting that model for something called Tales of the Pavilion Hospital which should be going live in a couple of months this September. I've worked on quite a few other small things. There was an interactive again (that Surface Impression

worked on) for our Spotlight Gallery which is essentially a quiz, as it stands at the moment, but you pick out peoples thoughts about things in the exhibition – being about the Ice Age, picking up on the theme of climate change. Also much smaller experiments using social media, so something like the WW1 daily blog we are running at the moment which is not huge numbers, but you'd be surprised as how often it comes up in conversations with people who have actually seen it. And then sometimes tiny little things like Twitter Q&A and there's also our blogger in residence program which again has brought up a lot of interest. (Bacon 2015)

A graph analysis of Bacon's interview responses reveals the huge range of actants involved in his work as Digital Engagement Officer:







with its employment, for example employing Patricia Wheatley as “Head of Broadcasting” and Matthew Cock as “Head of Web”. Wheatley described her role as having three main parts:

One is I deal with relationships with broadcasters and the museum, so obviously we talk a lot with the BBC. Broadcasters from all over the world come here, there are very specific jobs where they want to come in and film for a few hours. And we’re just part of the story. Others are much larger relationships – for instance, we have a major relationship with NHK Japan [Japan’s national broadcaster], that involved getting to know a lot of new people. Night at the Museum 3 has used us as their location, so there’s those kinds of relationships, that can be very small or very large. And then there’s commissioning and co-producing, they are the biggest thing, and obviously there’s internal – helping people understand what media is and working with colleges in digital, but also with the curatorial team. (Wheatley 2015)

## **The mediatisation of the museum**

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To realise the projects described in both the case studies and the historical examples, museums had to engage with companies involved in media production. Some of this engagement was purely by purchasing equipment and material that was already available, but many of these examples required a far greater degree of collaboration. The Deutsches Museum Planetarium involved Carl Zeiss in such a degree of

research and development that the company actually built a mock up dome on the roof of its factory between 1919 and 1923 in order to test their projector designs (Deutsches Museum, n.d.). Exhibition designer James Gardner commissioned artist Edward Ihnatowicz to create the Senster for electronics giant Philips's new Evoluon museum. Ihnatowicz taught himself how to programme the wardrobe-sized computer provided by Philips, but in the end their engineers had to help him in order to master the complex relationships between the Senster's sensors and its movements (Gardner, 1993). The Penn Museum became an integral part of a CBS studio production, as *What in the World?* was broadcast over fourteen years.

Innovations, such as the planetarium or the audio guide, became something that could be further exploited outside of the direct relationship between client museum and supplier company. The Carl Zeiss projector became the foundation of hundreds of planetaria worldwide. The 1950s development of the tape-based audio guide at AMNH was followed swiftly by the founding of Acoustiguide in 1957 – a company that has sustained until the present day, providing audio guides for a huge range of museums and other venues around the world (Acoustiguide, n.d.).

Just as companies see products, techniques and methods that can “spin out” from museum-based media activities, they also can begin to see the museum as a market in itself. By choosing to utilise media, museums have had an influence on the shape of several media technologies and the activities of many of its commercial providers. Actor-Networks show us this is a two-way (or indeed multi linked) process, and media technology has, in return, shaped the museum in a multitude of ways. The innovation process of media experimentation and development is a process of knowledge exchange between museum and supplier, but as technologies and practices become embedded and novel media forms and formats normalised,

the museum sector has emerged as a distinct ‘market’ for commercial firms including formal processes for marketing and sales such as suppliers guides, trade shows and tendering of contracts (Museums Association, n.d.; American Alliance of Museums, n.d.).

Ideas, information, proposals and pitches travel back and forth between museum and potential suppliers as relationships become established and formalised.



Figure 7.2: The Minoan Room at the Ashmolean Museum, 1910 – 1920 (Photo: Ashmolean Museum)

To follow this interaction, we can return to historical sources, where we can take as an example a typical museum gallery at the turn of the 20th Century (in this case a scene [Figure 7.2] from the Ashmolean Museum in Oxford, UK in 1910). Here, we can see a number of elements that were common to displays of that time. The room is dominated by a number of wood and glass cabinets; mostly freestanding,

but with a few wall-mounted examples. Within the cabinets, there are many, densely packed objects, so positioned as to maximise the number of similar items that can fit in the glass case. Interpretation is offered in the form of small hand-written or printed labels next to many of the objects.

### **Programme**

Curators

Objects

"Collection"

Rooms in museum buildings

Glass cabinet makers

Printed cards / printers

"The public"

### **Counter-programme**

Destructive environment

Having enough room to fit enough objects  
from the collection

Opposition from colleagues to selection  
or interpretation

Incomprehension of the display by visitors

At this point, we can observe that the media technologies deployed in the museum gallery are largely confined to cabinet making and card printing.



Figure 7.4: Brooklyn Museum: Dolls and Toys of Many Lands, 1939 -1940. (Photo: Brooklyn Museum)

By the 1930s, museum gallery composition was beginning to change, as seen in this 1939 example, from the Brooklyn Museum, USA (Figure 7.4). We can see that the density of objects has been much reduced and the gallery “feel” is much more spacious too. A new application of technology has been mobilised – lighting. The cabinet has its own direct light and overall illumination is enhanced by the architectural technique of “uplighting”. The influence of “modernist” design thinking is detectable in the architectural forms of the room and in the unadorned construction of the display cases.



Figure 7.5: American Museum of Natural History: Paleocene Hall, 1958. (Photo: AMNH)

The photograph (Figure 7.5) from the American Museum of Natural History, New York, taken in the 1950s, shows how “design” has become an integral part of the gallery. The glass cases, interior architecture, objects, lighting and “interpretation” (in the form of text and photographs within the cases) have been composed together to form a designed “experience” to engage with the visitor both aesthetically and intellectually. The gallery now dominates the architectural space; it is no longer possible to detect the shape of the original rectilinear room in which the display has been installed. In the curve of the aisle, there is also evidence that the “flow” of visitors around the gallery space has been considered as part of the design. To construct this style of gallery, new people, techniques and things have been recruited to the programme.



## **Programme**

Architects / Interior designers

Fit out contractors (builders)

Specialist glass case manufacturers

Typesetters / sign makers

Photographic reproduction

Architectural lighting specialists

Copy editors/proof readers

"Flow" around the museum

"Education" as the mission of the  
museum

## **Counter-programme**

The legacy spaces in the existing  
building

Project cost / budget restrictions

Lack of natural light

Museum professionals opposed to  
"over-interpretation"

Congestion at busy times



Figure 7.6: Brooklyn Museum: Peruvian Colonial Painting 1971 -1972. (Photo: Brooklyn Museum)

In the example shown in Figure 7.6, from the Brooklyn Museum in 1971, we can see how reproduction technology gained enough credibility with curators and gallery designers that they were prepared to not include objects at all in significant areas of the display. Here, “interpretation” rules the space, and a large narrative is relayed through photographic enlargements and long, typeset text panels. The “embedding” of text and graphics into the wall of the gallery became an established practice during the 1980s and 1990s, aided in part by the development of “large format printing”. Large format printing uses the same “ink jet” printing techniques as our contemporary home computer printers, but the mechanism is mounted on a large framework capable of printing onto rolls of paper (or other media such as board, textiles or petrochemical-based sheeting). During the same period, “desktop publishing” software became widely established, cementing the professional role of the “graphic designer” into the network of suppliers (while displacing other reprographic roles such as “typesetter”).

Image removed due to copyright restrictions

Figure 7.7: Museum of London: Captain Kidd. (Photo: Museum of London)

As we can see from Figure 7.7, an exhibit design from the early 2000s, the display is

highly characterised by the large format printing that has been deployed. The design of the print utilises a background pattern lifted from period textiles and a heading typeface “inspired” by the topic. Adjacent to the case of objects is a “physical interactive” that enlarges an image of a coin to a giant proportion.

### **Programme**

Integrate all gallery space with narrative

Graphic designer

Large format printing

Print supplier

Design software

### **Counter-programme**

Cost of production / hiring outside suppliers

Specialist skills required to create harmonious design

Opposition to “dumbing down” or “theme park” museums (from museum professionals and/or press)

Once a museum has decided it wants to offer “interpretation” for a theme or for a selection of its objects, a difficult decision follows: “how much?”. The curators’ own knowledge, and the external expertise they may wish to bring in to the project, add up to a huge amount of material that must be pared down to fit the space available – which as we have seen, is made up of a series of caption cards and text panels on the wall.

In this case the programme is “Portray our interpretation in the gallery” and the counter-programme is “There’s not enough room” and “The visitors will be overwhelmed and fail to comprehend what we’re saying”. To attempt to fit more interpretation into a finite space, museums have employed a number of different techniques. These range from the “low” tech, for example the including of pull-out drawers or sliding panels under or next to cases, to the adoption of other media

technologies. These time-based media elements were included as separate items in the gallery space, but “gallery designers” increasingly began to integrate them into the “experience”.



Figure 7.8: Brighton Museum: Images of Brighton gallery. (Photo: RPM)

For example, this photograph (Figure 7.8) of the local history gallery (created 2002) in Brighton Museum (UK) shows a unit that composes film, “physical interactives”, audio and objects into a single display.

Image removed due to copyright restrictions

Figure 7.9: National Museum of Australia: Yiwarra Kuju 2010

The photograph above (Figure 7.9) shows “touch tables” being used at the National Museum of Australia in Canberra to create a long, interactive narrative space that draws the attention of visitors to the centre of the gallery. In the photograph, it is hard to detect the presence of any original objects – the museum has entirely mediated the narrative that stems from its collections and its educational mission.

The last decade has seen an increase in the use of “projection” in the gallery space. Another media technology, projectors are computer “driven” optical apparatus that allow the gallery designer to specify larger dimensions for film and moving graphics. Projectors can be combined in various ways, either to create a larger image or to composite many film elements into a unified presentation.

Image removed due to copyright restrictions

Figure 7.10: British Museum: Vikings, life and legend. (Photo: British Museum)

The final photograph (Figure 7.10) shows the British Museum’s “Vikings: life and legend” exhibition in 2014. The Viking longboat is the key exhibit in the gallery space, but it is largely expressed by a modern framework of steel and wood that

delineates the shape of the vessel, and contains just parts of an original ship. Behind this, the entire length of the ship is dedicated to a massive projection, upon which the environment of the seas that the Vikings sailed is portrayed. Alongside this media, an “authentic” connection with the topic is provided in the typical museum style – with period artefacts and remains of the original ship. But overall the gallery is dedicated to creating a Viking-themed experience, inspiring a theatrical awe in the visiting audience.

At the Cooper Hewitt, a multitude of media and technology companies “supplied” the museum with services, software and hardware, in a complex network that resulted in an entirely mediatised gallery space, and entirely mediatised visitor experience. This intensification of mediatisation culminates in the “Immersion Room” – the gallery space used to explore the museum’s collection of wallpaper designs. Here the Cooper Hewitt Pen, projection, touch tables, and of course the underlying API (applications programming interface connection to the museum’s object records) come together to create an entirely mediated space. Visitors use the Pen to choose wallpaper designs from the collection via a “river” of images that cascade down a touch table. Selecting a design causes it to be projected across the walls of the space – in a seamless tiled manner – to simulate the way that wallpaper would look once hung. At no point is a real artifact used, but the experience allows the visitor to access far more of the collection than through a traditional display, and to experience the wallpaper in a way that effectively communicates the intended nature and usage of the original designs.



Figure 7.11: Cooper Hewitt interactive wallpaper "immersion room" exhibit. (Photo: author)



Conculsion:

## **Media production, shaped by uncertainty, instability and intensification**

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New technology is exciting, but new technology is also difficult to work with. By engaging with it museum professionals are forced to deal with many aspects outside of their normal practice and knowledge. Many will have experience in managing media production projects and have an understanding of the uncertainties involved, but for others the project may be an entirely new experience. New technologies, new techniques and new forms and formats bring creative and communicative opportunities, but they are often unstable – Actor-Network Theory allows us to trace the source of some of that instability and to see that influences well beyond the control of the museum practitioner can be instrumental in a project's success or failure. As a result of the increased uncertainty and instability of the production network, when engaging with new media technologies, museums are forced to work that much harder – their project intensifies. As well as exerting more effort themselves, museum teams must draw in a wider network of other media professionals along with additional techniques, technologies, procedures, conventions and other resources. Bringing these actants into the museum's sphere also brings the museum into the actants' own spheres and influence acts both ways – from museum to supplier and back again. Ultimately, this has helped to shape the museum itself, particularly in public-facing areas, as was demonstrated by the last section of this chapter. The museum has evolved into a highly mediatised space.



## Chapter 8

### Conclusion:

The museum is shaped by the media it produces

**T**his thesis set out to understand how, and why, museums incorporate new forms and formats of media production into their practice. It made use of theories from museum studies, media studies, business studies, science studies and sociology to pick apart the media production practices of museums, in particular through four case studies where institutions had undertaken projects where the media technology, form and format (or combination of all three) were unfamiliar to them – these were the first instances where these technologies had been deployed in the manner chosen.

Using theories drawn from museum studies, media studies, business studies and sociology, this thesis has traced the museum's activity as a media producer in its own right, and has attempted to examine how museum staff and outside contributors come together to work with innovations in media technology, form or format.

In Chapter 2, we took a long view of museum media production, observing how museums have always produced some form of media, and have often been keen to adopt media technology innovations soon after they have arisen. Two particular

examples show museums being part of the invention of media forms themselves – the planetarium in the 1920s and the audio guide in the 1950s – that have spread from their place of development (the Deutches Museum, Munich and the Stedelijk Museum, Amsterdam respectively) to right around the world. We also looked at why museums choose to make use of media as part of their mission as an institution, and the practical advantages that media usage conveys – including the ability to deliver more interpretation in finite spaces (for example, via an audio guide at the Stedelijk Museum) and to reach audiences far “beyond the walls” of the physical museum venue (such as the Penn State Museum’s foray into television).

In Chapter 3, we stepped back from the museum setting and looked at processes of media innovation, and how this has been modeled academically and in industry. Using Levitt’s 1965 Product Life Cycle as a starting point, we traced innovation from there to Gartner’s famed Hype Cycle – a somewhat humorous, but nevertheless insightful depiction of the process of anticipation, excitement and eventual productive utilisation of new technologies. The chapter also looked into the triggers of innovation, particularly moments of convergence of previous forms to generate new forms and formats.

Chapter 4 introduced Actor-Network Theory (as a viable candidate for our critical lens, and theoretical framework for the data gathering) and undertook an analytical pilot study of the British Museum’s *A History of the World in 100 Objects* transmedia project, broadcast on BBC Radio, online and through other channels in 2010.

Adopting ANT’s exhortation to “follow the actors”, the chapter traced contributors to the project, human and inhuman, and drew them together into a network graph. This was then used to bring to the fore key actors and moments in the network, and to develop an understanding of how museum artefacts are “translated” into media productions via the network of the museum, and its partners.

Chapter 5 set out the projects of our four case studies, a smartphone app for the Beecroft Art Gallery (Southend Museums), media installations in a gallery redevelopment at Brighton Museums (Royal Pavilion & Museums, Brighton & Hove), transmedia productions at the British Museum (including live cinema broadcasts) and a large scale, media focused, redevelopment of the Cooper Hewitt Museum of Design in New York. Avoiding ANT analysis at this point, the chapter simply sought to describe the context and sequence of events during the production of each of the four projects.

Chapter 6 took the four projects, and undertook Actor-Network Theory analysis of each through a set of tools originally developed by ANT's core proponents, Callon, Law and Latour. With a synthesis of Callon's "moments of translation" and Latour's "socio-technical graph" we were able to explore how the translation of actors into the network further the project programme, but also shift its outcome. Actants that are known to the principle actor influence direction, but also many hidden actants have a bearing on the project's product – this chapter showed how some of these can be traced in the user interface and other manifestations of media.

Chapter 7 then examined how museums deal with production of these new media forms and formats. The adoption of the new and the innovation required within the organisation as much as in the medium place the project actors in a position that feels more uncertain, unstable and requires a greater intensity of action and interaction in order to create and sustain the new project's network. Charting media activity through uncertainty, instability and intensity, this chapter demonstrates how museum media projects cast a wide network, including a larger field of suppliers, hidden actants and other networks embodied in the collection items themselves.

This meshing of different actants from media, technology, the museum and elsewhere creates a flow of exchange that acts in all directions. Not only does the museum use media, but it also becomes a place shaped by media.

## Original contribution

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### Confirming the museum as a media producer

This research firmly establishes the museum as a media producing entity. The chronology of museum media production presented in Chapter 2 establishes a rich case history of examples. Building on Griffiths (1992) study of the intersection of museums and cinema, this thesis adds examples from print, radio, television, robotics, graphical user interfaces, the web, mobile and more, including the emergence of “transmedia” projects. The museum is also shown to be an innovator in its own right – contributing significantly to the development of the planetarium and the audio guide. The chronology demonstrates how eager museums have often been to adopt innovative media technologies – the dates of museum forays into new media forms getting closer and closer to the date of emergence of the form in question as time goes on. Despite a widespread self-image, and sector reports (Council of Canadian Academies, 2015; Nesta, 2013), that museums are “behind the times” with media technology, this study shows that many institutions (although naturally, not all) innovate early and often – prepared to take a chance with a new technology and / or a new set of collaborators in order to further their agendas.

## **The museum as a locus of media**

This study also considers *why* the museum has become a producer of, and even a place of, media – including the reasons that the museum chooses to mediate its stories. In essence, the museum adopts media forms and formats in order to further its mission, despite the boundaries of being a physical venue, with finite available space and a finite visiting audience. It uses media to extend gallery interpretation; increasing the amount of content communicable within the fixed spatial parameters of the gallery. It uses media to preserve content beyond the life of an exhibition; to give the work invested into an exhibition the opportunity to continue to return results long after a physical exhibit has been superseded by the next programmed event. It uses media to develop tools for education; to explain concepts that are difficult to convey in other ways, to reveal stories behind an artefact, to draw connections between artefacts, all designed for a multitude of ages, interests and abilities. Finally it uses media to go beyond the walls of the museum; to reach audiences outside of its physical bounds, to take the museum's mission to people who cannot or will not visit the venue itself.

However the museum does not produce media by itself, and this takes us to the how of museum media production. Actor-Network Theory explodes the appearance of media authorship by the museum as an entity and reveals the collaboration between museum staff, suppliers, funders and other stakeholders, but also the influence of manufacturers, protocols and standards, audience expectations, dissemination infrastructure, materials, sources and the original collection objects upon the media product. In addition, influence feeds back along the aforementioned network of technologies, suppliers and standards etc. and has begun to shape the museum itself. In Chapter 7, our survey of the mediatization of gallery spaces from 1900

to the 2010s reveals an ever-increasing encroachment of graphic design and media technology. This review of the presentation of gallery spaces starts with the classic hall, filled with glass and wood cases, themselves crammed with objects with handwritten labels (or even just numbers). Decade by decade, we see the introduction of designed spaces, typography, large format interpretation panels, television screens, sound, digital interactives, and immersive projections. These are not just evidence of museums choosing to use media technology, but also that museums have become places that designers, manufacturers, technologists and other people and entities see as a valid place to experiment with (to further research and development of a product), or to sell their services to (with a more mature product). We can see the experimentation with museums (particularly as a space where audiences are encountered, and as an institution that produces content) with the Samsung Learning Centre at the British Museum or the London Science Museum with Google's sand-drawing robots (Found, 2012). These media industrial entities see the advantages of the museum as an external laboratory – a perfect testbed for the research and development phase of new product innovation. This is not new – Philips used the Stedelijk museum in the 1950s to trial audio guide technology, and created its own Evoluon museum in the 1960s; experimenting with sophisticated robotics. Further back, in the 1910s and 1920s, Carl Zeiss worked with the Deutsches Museum to find a way to project stars and planets into the dome of a planetarium. Once a product enters a phase of maturity, industry may return to the museum as a marketplace that is willing to buy media technology. We can observe the ubiquity of audio guides in the museum sector – offered in a multitude of formats by a plethora of suppliers – as an example of a mature media technology product market. An audio guide is media technology hardware specialised for use in a museum setting, but this does not need to be the case. Another key example of industry “colonising” the museum as a market for its products is screen-based and projection based

“audio visual” media. The hardware is largely generic – the same screens and projectors as used by millions of entities all around the world, but the “content” is highly optimised for gallery display. The specialism exists in providers who package museum narratives, interpretation, images, film and other sources in order to create engaging and often immersive experiences for visitors.

The increasing availability of media channels and technological forms has led to the rise of transmedia projects by museums – a single narrative is broadcast across a number of channels simultaneously. The British Museum’s *A History of the World in 100 Objects* (2010) spanned radio, web and print, focused on a key set of narratives. This was followed up by their *Life and Death in Pompeii and Herculaneum* project that tied together an exhibition, live cinema, an app, web and social media (not to mention a printed catalogue). However, at the Cooper Hewitt, Smithsonian Design Museum in New York City, we can see excellent case that demonstrates the coming together, and technical integration, of Museum as producer and venue of media technology innovation. The Cooper Hewitt’s in-house team developed an API (application programming interface) to their collections database, and this was used by their recruited suppliers, Local Projects, Siemens and others to feed content to in-gallery touchtables, immersive projections and other experiences, as well as populate large parts of their online presence. A custom piece of hardware development produced The Pen – a device that people use to interact with digital exhibits and create their own designs during their visit to the museum, as well as store the objects and narratives they have seen in a way that can be retrieved later, once the visit is over. The Cooper Hewitt presents an example of a fully mediatised museum, where highly interactive in-gallery experiences and online experiences are all integrated, live, into the same “back office” data and functionality.

## **The use of Actor-Network Theory**

One of the objectives of this thesis was to assay the use of Actor-Network Theory (ANT) as a theoretical framework applied to the study of media production, specifically in a museum studies context. Developing a practical means to do so can be frustrating, in part because ANT has not been used in the field of media studies a great deal (Couldry, 2008) whereas it has crossed over from its original focus of science studies to areas such as development studies, education and other fields – encompassing the “socio-technical” as its area of application (Latour, 1992). Also frustrating is that much of the core text, particularly that of Latour, devotes itself to detailing what ANT is not, rather than what it is (Latour, 1996).

Despite this, a theoretical framework that concerns itself with the analysis of “things” as much as people, with both thing and human treated on equal terms, is a framework that has great potential in a sphere where people look after, interpret, display and educate other people about objects. The “symmetrical” treatment of non-human and human actors is an area of controversy for Actor-Network Theory – it can be difficult to see how objects can have agency in an activity. The answer to this is that in almost all cases, an object is the product of another set of actions by people (and other, prior, objects) – an object is the embodied result of a previous project. For example, an item of ancient pottery in a museum collection embodies the work of the potter of course, but also the people who extracted the clay that it was made from, and those that collectively reached a consensus as to what shapes were acceptable for potters to use, and those that mined the minerals used for the glaze, and those that bought and used such a vessel. Actor-Network Theory helps us pry apart the object-ness of the museum collection item, and consider it as a set of interactions between a number of people and things – and it is this that is the



network in ANT.

The object's story (or indeed network) does not stop at its creation. In order to be in the museum's collection, a whole set of other activities must have taken place. The object must have found itself in a situation, or series of situations, where it was sufficiently preserved until it became of interest to be part of a collection. Its provenance – the handing on of the object from person to person (network to network) throughout time, needed to be sufficiently stable to match the eventual collecting criteria of the museum (that criteria being the product of another set of people, agreeing the focus of interest for the museum, the historical significance sought, the standards by which objects are assessed and so on). On top of this, the object will be subject to cataloguing, perhaps to treatments to conserve it or stabilize its materials, and it may be presented for the public to observe – either live in the gallery space, or through some form of media (produced by the museum or a third party).

By giving us the means to “follow the actors”, Actor-Network Theory gives us the means to connect the creators of an object with the media product of a museum through time and space. As an means to analyse production, ANT comes with a set of tools that help to deepen description of a project, tools that certainly provide excellent means to explore the “how” of production. Callon's “Four Moments of Translation” allow us to follow the recruitment of actants into a production network and their “translation” into something useful for the “programme” of that network. Translation is a central tenet of Actor-Network Theory and, at its heart, describes the transformation of disparate elements that go to make up a part or a whole of a network into a definable entity. This concept was deployed in this thesis to describe how ideas become proposals, how proposals combine with funding to become briefs, how briefs become designs and so on – a series of transformations

that translate the activities of people, both inside and outside the museum as an institution, into agreed steps that themselves are translated into the final media product. When mediated, translation can travel in many and varied directions; at the British Museum we observed the transformation of the “private view” into a cinema film, at Southend Museum the development of a smartphone app, originally an initiative deployed to get the museum’s fine art collection photographed, became the art selection that formed the Beecroft Art Gallery’s inaugural exhibition in its new venue. Brighton Museum’s World Stories, Young Voices gallery became a space where media is experienced through multiple channels, either through copious screens or via visitors’ own devices. The Cooper Hewitt translated itself from a little-visited old-fashioned museum in a backwater of New York to a fully mediated design-led and design-focused space, with all outputs connected centrally to the database of object records.

Bruno Latour proposed the Socio-Technical Graph (1992) as a means to map “controversies” in scientific and technological controversies. This qualitative graphing approach enables the analysis of how project programmes deviate from their original course as they meet opposition in some form or another, the “counter-programme”. By combining the four moments of translation into the socio-technical graph, with the four moments represented on the X axis and the progress of the project on the Y axis, this thesis synthesises two of the key methods proposed by the founding theorists of Actor-Network Theory into one tool to help chart production networks. When applied to our case studies, the charts reveal a number of opportunities for the programme to be deflected from its original path, intensified by the novelty of the media forms and formats that the museums in question have chosen to adopt for their projects. The novelty of the media technology forces the museum to deal with actants that they might not otherwise

encounter – new suppliers, new sources of funding, new protocols, new risks and so on – some of which may not be apparent to them (hidden actants). This increases the uncertainty of the project’s potential outcomes, and intensifies how much effort and focus must be devoted to the network in order to stabilise it sufficiently that the project reaches completion and that the media product is sustained beyond that point.

Uncertainty with a new media technology is partly an inevitable product of the hidden actors in a network and partly a question of skills development – a staff member that has not experienced a particular medium before will feel uncertain about how to make use of it, and uncertain as to what the outcomes will be.

Shaping of museum “content” to suit that medium will also be uncertain. In short, when the medium is new, the people involved cannot yet fully understand how to go about producing an outcome for their programme.

A new media technology is in itself unstable – it will not have matured; the material or software nature of the medium will not be sufficiently resolved to behave consistently and predictably; the new media may not have yet have found its audience in sufficient numbers to support the museum programme; approaches to the editorial content to be conveyed by the medium may not suit the new format, instead belonging to conventions of previous media.

The instability found in this stage of immaturity of a media technology reveals to audiences some of the interior networks of what should be a black box. A black box that breaks or disappoints is no longer a black box, but is instead a set of problems. Moments such as these tip the new medium over from Gartner’s “peak of inflated expectations” and into the “trough of disillusionment”. It is only when

the technology becomes sufficiently stable that it becomes punctualised, and utilised as a self-sustaining black box once again. At this point, the medium reaches the “plateau of productivity”.

To compensate for this uncertainty, driven by unfamiliarity and instability, the Museum practitioner engages with a larger number of collaborators and resources in order to carry out their project. In other words, their network is intensified – more actants and more activities are brought into the production Network. Every actant that is assembled into the Network is likely to deflect the direction of the museum’s programme to some degree. Therefore, working with a new media technology is further rendered more unstable and the project outcome less certain. This condition is where the project’s innovation is located – the confronting and, in most cases, the overcoming of uncertainties and instability in the medium is the process by which the museum enrolls a new technology, translating it into the network that makes up the museum’s wider programme – the delivery of the museum mission.

Once translated into a component of the museum’s wider mission, a new media technology does not become a passive item, self sustaining *ad infinitum*. In fact, to continue along the “plateau of productivity”, the museum must continue to invest energy into the Network that sustains the medium. Suppliers, colleagues, consumables, content, maintenance, promotion, documentation and more must continue to be marshalled in order to sustain the network and so continue to use the format. The chronology of notable media innovations used by museums that we saw in Chapter 2 is populated by many examples that fell out of use. We do not find Dramagraph film players in the American Museum of Natural History or see the Senster robot at the Evoluon museum in Eindhoven; even some of the case studies have struggled to be sustained – the British Museum has not returned to live cinema

(or even exhibition apps) since their Pompeii and Vikings productions and Southend Museums has not produced another app. However, work invested into media innovation often emerges in future projects and plans – looped film is firmly part of in-gallery media and the use of robots to explain concepts has continued (Found, 2012). The British Museum may now avoid live cinema, but instead has produced a prerecorded documentary for cinema release. In this way, the network is recycled and reinvigorated, lessons learnt from innovation incorporated, and a new media practice begins to be normalised into museum practice.

With all this media production activity, the museum gains from access to, or development of, new technology, but also inevitably becomes a locus of activity for other producers of media or media technology. The increased flow of interaction between museum and media washes back and forth from institution to industry. Museums end up pushing media to find new ways to express their content or their mission, and media pushes museums as a place to try out new techniques and technologies. The result is a space that has become, in many cases, a venue for a highly mediated visitor experience.

Museums have made themselves media producers in their own right. Despite the difficulties of accommodating the new, museum professionals work through the myriad programmes and counter programmes that dealing with new media technologies throw up. It could be easier to outsource media production to outside providers entirely, but the museum chooses to become an *obligatory point of passage*, and assemble each project with themselves as the principal actor. Just as a publisher or broadcaster pulls in the work of others to assemble their own productions, the museum does so as well, learning to cope with the new all the while.

## **Utility for museums**

This research can help museums, and particular museum practitioners who engage in media production, in a number of ways.

Firstly this thesis can help to dispel the myth that museums are necessarily places that are behind the times with media technology. Practitioners can take inspiration from Chapter 2's survey of over a century of innovation by museums with an eclectic range of media technologies.

Secondly, a deeper understanding of production processes, particularly when dealing with a novel media technology, form or format, will help museums to plan and undertake such projects, with foreknowledge of what to expect. In particular, Actor-Network Theory analysis of the production programme shows how change to the programme is inevitable, and outcomes of work with new media technologies and techniques must be uncertain. To be able to understand that significant change is inevitable in a project, is a great bonus for project management – furthermore, to know where those changes are likely to originate from makes successful project outcomes even more likely. The charting of translation of actants into the network can map directly to stages of project management processes and help to guide practitioners through the uncertainty and instability of new media productions.

## **Limitations of the study**

Media production in a museum setting is a broad field – there are many types of media, with a wide variety of production processes and methods. Equally, museums are not homogeneous, they range greatly in size, focus, staffing, location and ambition. This study of museum media production, in order to be achievable,

limited itself to four museums, three of which were in the UK and one in the USA. The historical survey of notable museum media productions, found in Chapter 2, ranged further in scope and was used to offer further insight into the analysis, but different case studies of different museums would be very likely to throw up different insights and conclusions.

The four case studies all represent museums that undertook projects with a media technology that was novel to them. As such, they were useful examples to observe how new techniques, approaches, skills, collaborators and so on were assembled in order to bring a media production into being. Three of the institutions are based in the UK, one (the Cooper Hewitt) is based in the USA. The British Museum is a major UK institution, with a greater scale of resources and demands on those resources. Southend Museums and Royal Pavilion & Museums, Brighton and Hove are multi-venue and part of local authorities, with varying degrees of financial and logistical support from their respective councils, as well as being subject to their organisational hierarchy. The Cooper Hewitt is also part of a group, the Smithsonian Institution, “the world’s largest museum, education, and research complex” (Smithsonian n.d.). With only four case studies, there’s naturally a risk that idiosyncratic elements are focused upon or other important aspects are missed entirely. In this research, there were clear similarities in the way the individual museum professionals encountered and reacted to new media technologies, even if the scale and scope of the production was very different. The recruiting and translation of collaborators, tools, expertise, collection objects and the myriad of other actants into their programme also had many commonalities. The author’s professional experience of working with other museums, since undertaking this research, has also anecdotally revealed very similar results from institutions that range from small to large, are located in the UK and overseas, and cover a wide

range of specialisms (eg art museums, open air museums, science museums, local history museums and so on).

As stated, a particular focus of this research was situations where a museum was undertaking a project utilizing a new type of media technology – or, more specifically – a type of media technology that was new to that museum. At the British Museum, the main novelty was live event cinema; at Southend Museums, a smartphone app; Brighton Museum developed an integrated set of gallery media across mobile and in-gallery display; and the Cooper Hewitt took this a large step further, building an integrated media platform across their physical spaces and online. At the time of the study, these technologies were still immature, so each museum was coping with the new at the same time that each medium was still establishing itself. Including one or more case studies where a museum was incorporating a mature technology that was nonetheless new to that museum might have controlled for the “double newness” of each situation.

Another approach might have been to compare a historical example of production with a contemporary one, with both examples at the same museum. This approach had been considered for this research but was not taken up, in part because records of previous productions are difficult to find, non-existent or of a poor standard. Museum documentation of project processes are not necessarily retained and those records that exist naturally focus on project outputs and evaluation rather than inputs and process. Nevertheless, a study that managed to locate sources for a historical production and compare it to a contemporary one might reveal valuable insights into changes in how museums approach novel media technologies, forms and formats.



The use of Actor-Network Theory as a framework for analysis has had a huge impact on the shape of this thesis. Literature on Actor-Network Theory often seems to be more about what it is not, rather than what it is (Latour, 1996), and its founding proponents are often ambivalent about the theory; Latour having stated ‘there are three problems with Actor-Network Theory, “Actor”, “Network” and the hyphen’ (Latour, 1996). Although he later recanted this statement, ANT analysis can be opaque, difficult to apply and hard to convey.

The analysis of data in Chapter 6 makes central the use of Latour’s “Socio-Technical graph”, and elsewhere other visualisations, such as network graphs are employed. These techniques have been instrumental in gaining insights into networks, helping to identify obligatory points of passage and the many translations in media production. However, these representations of selected aspects of networks run the risk of being construed as the network itself. This is akin to an artist’s drawing of a person – the sketch captures some essence, and a likeness of the sitter, but it is not by any means the whole of that person. In the same way, the qualitative interpretation produced by the graphs and charts in this thesis are merely a likeness of part of the networks under investigation. Different approaches to these charts, or even different visualisations entirely, could have been deployed and would most likely provide other insights.

## **Future research**

In this thesis, Chapter 2 demonstrates that museums have long been engaged in media production, and are often keen to engage with innovation in their media practices. Chapter 7 offers a method of analysis, based on Actor-Network Theory, that can help researchers to “follow the actors” throughout a production process.

A natural next step would be to apply the method to further case studies, especially as new media development projects emerge in the museum sector that make use of innovations in media technology. Through repeated refinement and extension of this model – for practice in the museum and for analysis in the academy, a useful means of mapping and explaining production can be derived.

Another area of further study would be to examine how the assembly of media changes once the use of that medium becomes routine for a museum. If the novelty of the museum technology is removed, and aspects of discovery, content, design and development become more formalised, how will the network and its actants change? Those museums that have in-house publishing operations or audio/visual production units would make useful case studies for this.

As stated in the first chapter of this thesis, museums can carry a self-perception that they are “far behind” when it comes to the adoption of media technology. Chapter 2 explores how, as a sector, museums have in fact often been “early adopters” - plunging into projects soon after a new media technology becomes available, driving forward research and development into the ways they can employ the medium to further the museum mission. However, it would be misleading to take the museum sector as a homogeneous whole – it is of course made up of a wide variety of institutions, of widely variant sizes, situations, topics, funding and governance. Some museums are then, by the nature of this diversity, going to be “behind” others. The factors that contribute to whether one museum engages with novel media technologies while another does not would be an area of further study. During this research, examples were discovered of media projects at the largest and the smallest museums, as well as institutions that were national, local authority controlled,

part of groups and completely independent. In addition a wide range of topics, concepts and artefacts were covered. It could be speculated that the motivation and confidence of individual museum professionals, rather than any common characteristic of the institution itself, may be a key factor in the likelihood of the initiation of media projects, but further research would be required to investigate this.

This thesis began with a historical survey of media production by museums. It has demonstrated that museums are institutions that have, as a sector, been early adopters of innovative media technologies, and in some cases, the originators of new media technologies and formats. Despite this apparent keenness to engage with new media opportunities, production is risky and uncertainties abound. Actor-Network Theory helps us to see how innovation in media will make projects more unstable; there are more hidden actants in the network, and the translation of actant into a mobilized form can require more effort than with use of a familiar medium. In response, the number of actants involved increases, and the activities in the production network become more intense, and divergence from original idea through to final output becomes greater. Each actant has an influence on the shape of the final product, but their influences go further than the boundaries of the product, and, over time, the use of media changes the museum itself.



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# Appendix 1

## Interviews

## **Interview:**

### **Clare Hunt, Southend Museums**

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**Peter Annhernu**

Clare Hunt

**Could I ask you to say who you are, and to explain what your role here is at Southend Museums.**

Clare Hunt, curatorial manager for Southend Museums and I oversee the whole curatorial team and everything they do. We have four branches, two historic houses, the Art Gallery, the Central Museum. And we have curators for Social History, Archaeology we got a conservator and Art Exhibitions curator. So I oversee what they do and their projects, and I also look after the Historic Art collection myself.

**And so obviously we worked together on the app project recently - so my question around that is where did the initial idea come from for that project?**

For a very long time we wished to digitalize the art collection. We already had the oils done with the PCS project, but most of our collection, as with most collections were works on paper and most we didn't have decent images of. We can't ever exhibit a fraction of it so its kind of getting it somewhere digitalized, and obviously the main expense for that was the photography to start with. And we wanted fine art photographers to do it, so it's of the highest quality and can be used for whatever, whenever we need to use it. And because there was about 1500 works we

realized it was very expensive to get them all digitalized. And we thought could we get them done via an Arts Council funding application. And initially our idea for the Arts Council was just to digitalize them and make them accessible online, our whole collection. And their initial feedback, because you know you do a little brief to them about what you think you might do and get some feedback before you apply. Their initial feedback was kinda of, hmm yeah, you know fair enough, but it's not that interesting. And so I said to my boss - he was applying at the time, that there might be that danger that they wanted it to be a bit more with the times. So I said to him why don't we get it all photographed for an app which will feature some of them? But obviously with the potential to feature all of them, or we change them, or add to it that sort of thing. And it was based on an exhibition I did several years ago, a before and after type of exhibition. And we had a local photography group - I gave them a set of images that were actually prints, very small prints, and said could you take that picture now. And for the exhibition we showed theirs alongside the original. And we also blew up some of the detail, because some of the prints were tiny. People will just walk past them, especially if they are black and white. It's not that appealing - it's very small. It seemed a lot of work to stop and peer at something. It was a way to make people stop and look closer at these, and I think that really worked for the exhibition and for the app. You know you could do a similar thing and then it wasn't till we started the process that the idea of the fading in and out, which works better obviously than side by side flicking between so that's the basis for the idea.

**So as you were putting together the project, how did you go about assembling all the different people you needed to help you do it - in fact who were the people you needed to help you do it?**

Well, I went to a Museums Associations conference about using social media and

accessibility. Anyway it was very timely, it was about the time we were applying and I thought well I'll go along to that and of course there were quite a few people toting their wares who did apps and guides and all sorts of things like that, so I picked up a few of those and I'm guessing one of those was yours. And I initially chose three I thought that they looked like they specialized in heritage in general, and a little bit more artsy and I thought about the heritage direction. And I had a chat with each company to get a feel of they do - do they get what I'm trying to do, before I invited a couple of them to put together a quote for it, or what they could do for the money. And at the time the money was a bit of a guess I think on my bosses part, they said do you think twenty grand would cover it and I said probably, but then there was also the photograph side of things, I actually went to the same photographers who did the photography for the PCF project.

**With the PCF did the PCF place them with you?**

Yeah.

**Rather than you recruited them?**

Yes they did. And so I felt they'd already gone through that process, that sort of quality control process, and they did a lot of work for PCF, not just in this county but all over. Based in London, they are expensive, they are the thorough breads I think of the fine art photography world. I thought if we're going to get it done and I've got those images, I would like to be able to use those images. I don't want to later find a print done, and that's not good enough for that, I don't want them to have to be done again. In other words because we've done it twice already, we had it done pre-digital and so I had these draws and draws of coloured transparencies, which you then have to scan. If the scan settings aren't perfect and I'm never quite happy, but of course we'd already paid a photographer to do quite a lot of work

there and then its not good enough. So hopefully this will be the last time but I got the photographers and obviously I knew that was going to be quite a large portion of the funds but Arts Council seemed quite happy for us to photograph the collection, just to feature how ever many would be on there. I didn't even say it was going to be 65 or something but you know we've had 1500 downloads.

**That's very good, so the legacy is beneficial. And within the photographers, you know when you started working with them, what sort of people were you dealing with - with them? Did you have a team? Or was it one person?**

They've got one person who comes and does the negotiation and budget - we can do it for you for that price, all that sort of thing. And then they sent their photographer who stayed with us for about, on and off eleven days. And then it got to the point when they'd taken the photographs but I hadn't realized the time it actually took to do the processing of them as well. So it ended up a little bit more money than we thought, but you know there was contingency and stuff. That's what that was there for really in the project, so it was very easy. Actually the guy who was obviously the public relations guy along with the photographers that was quite simple.

**And what about within the museums service, who did you have to deal with? Or even within the council who did you have to deal with to get this project done?**

It was me basically, but what I did find out afterwards was apparently I got a slap on the wrist, because I should of gone to IT, spoken to them about an app being produced under the name Southend Council, and kind of got their approval for it if you like. Because anything that goes out in the world that has Southend Council on it needs to be approved by Southend Borough Council. So I kinda did that in

retrospect and they were happy with it. I think usually as long as the brand is on it they are happy. If it's something a bit more controversial - these are not the views of Southend Council. So yeah I was told in retrospect I should have done that. It's just a process that I hadn't been aware of when I first heard about it.

**So with the Arts Council relationship - did the boss put the application in?  
Or did he rubber-stamp your words?**

Yeah he sort of put the application in. It was my idea. It was also linked with the project Beauty and the Beach bathing suit exhibition. And overall it was called the Thames Estuary project. It was sort of taking the art and the costumes, although they were two very different strands really. But yeah he put that application in and I'm trying to think, I think most of the content and that kind of thing was thought about afterwards at Surface Impression, and you know I hadn't really thought about it - things like the trails, I hadn't thought about to begin with. I'm trying to think who else was involved, and after that Arts Council didn't have input really - once they were happy with it and said yes.

**In general, do you have much contact with relationship managers or  
anything with the Arts Council?**

Yes.

**But not on this specific topic so much?**

We did have a sort of case manager, and actually they changed this person about 3 times throughout the course of the project. But I think once you've got the funding, there just there if you need them really. And oh you do a report every few months, a quarterly report, saying what you've actually spent and what on, so they can see if there's anything drastically wrong going on - overspend or underspend. But apart



from that they kind of leave you alone.

**And of course you had the slight spanner in the works that you moved part way through the project and that wasn't anticipated as far as I remember?**

Not at the time, no. I think we were told for certain in June we'd be moving the following year. At that time they thought we'd be moving early in the following year and I said, well we have got to close the old place to pack up and give ourselves a few months to do it. So we did close in October, spend a few months packing up but then as it happens building work ran on, and we didn't get here till July. But in that time there was the chance to think well you know what's the first permanent exhibition going to be? It makes sense that it could be the pictures on the app, saves me to have to think about having another theme to display. You know you've got it there.

**It sort of sells itself in a way.**

Yeah.

**And in terms of once the app had come out, did you have any kind of press interest or other kind of things happening?**

Yeah well we've got quite an active social media, that went out. It's gone out a few times to remind people. We did have some press but because the gallery was opening, as well at the same time, it kind of got a bit sucked into that story - the gallery. And then usually there was a sentence or two about the app in there too. I suppose under normal circumstances the app would get its own press story, so yeah that was a bit of a shame but I still thought we might be able to do it another time, make it sound like its new.

**I guess sort of in general terms how do you purchase media elements that the museum produce? So today we've talked about interactive for the open and there are other things that the service does. Do you think there's an underlying direction there?**

Well I think it just depends on the project. I think it's case-by-case basis, because other stuff we've done is interactive. Prittlewell Priory has got some interactives, they were part of a much bigger, an HLF 2 million pound project, and the designer who got the work for that theme got the people who they wanted to, and we didn't get the sort of chance to pick who we wanted for that. And also the interactives, the ideas were pretty much come up with the designers as well, which we were quite happy to be lead by what they thought would be successful in places. But I was sort of curatorial staff on that project. But the project manager said yes to a lot of things I wouldn't of said yes to. There are interactives there that I wouldn't have chosen and I don't think they work and when they break down I will un plug them and put them away because I just feel -

**They aren't right in some ways?**

I don't think this works.

**So kind of on that point actually - so thinking about the different contributors say for an exhibition build even to the level of graphic design - is there a danger of the kind of contributors taking over the story a little bit?**

Yeah and I think especially if its a high profile, I mean that one was a big thing for the council - big two million pound project. I think the museum service got a bit lost in the mix and I think everyone forgot it's for us.

### **For them?**

And a lot of what we said was important and kind of to someone else it wasn't that important. And they said well you know we can cut that and we said - what for instance they didn't put exhibitions circuits in Priory, so for instance you can't just turn everything on from a switch, you have to go around to each individual interactive and do it. Which isn't good for a morning routine, it's easy to leave things out and the front of house have to make sure they turn it on every morning and you know it's not ideal, and I think that was sacrificed. But I think someone thought something else might be more important, but they didn't think in the long term and the actual practicality.

### **So with a project of that scale was there a kind of project management company brought in?**

No no, a project manager was brought in from the Council who actually knew nothing about the museums or the buildings or exhibitions. You know the project management but not the actual subject. And he wasn't open to being lead by those who did know so we didn't get a lot of input. Kind of got a lot of - we need this for this interactive with this information or the app. I think some senior people put their oar in and said well we must have lots of interactives because that's what people do in this case. And it was like oh do we really it? It's a historic building, it doesn't happen often in a historic building they have a nice intro type thing but they're not all over the place like the Science Museum. So I think there were too many. It was too ambitious and I would of wanted to concentrate on a couple of really good ones. I wanted a fly through thing of how it looked when it was a Priory that sort of thing, which I'd seen at heritage fairs, where you know you can fly around the buildings. You can go up even into the rafters and see what the decor was like, that sort of thing we do have a good record of.

**So you could do the historic - make it historically?**

Yeah we've got an archaeological reconstruction of it when it was a Priory and a model which are both pretty good as far as we know. And it could of been based upon that. I don't know that was very quickly dismissed, I still wished we had that instead of some of the other things.

**And does the museum service publish? Do you put out any books?**

Yes, very occasionally, that's sort of fallen off a little bit.

**And do you think that's because of digital things or because of other factors?**

I think probably some of the things we've done like the app instead of. I think a few years ago we'd more likely do a catalogue than an app of our artworks, so yeah I feel like we have kind of published our work, our art by doing that app really. So yeah I think partly that.

**And so now that you've moved and things have changed in the make up of the service, do you think there's more of a strategy towards how to deal with these things? Or would you like a strategy? Are you even thinking about these things?**

Well I think the other two projects your working on, they've come up separately I think. Basically when there's been a bit of money or funding for a project, there's probably going to be some sort of interactive high tech type element from now on, well it depends on the project.

**It's a good question. Why is that?**

Well it's partly to do with the funders. I think they expect to see the Arts Council expects to see something other than just the pictures online. As soon as I tended it as an app oh yeah they were all over it. We think well now we know there all over it, so there's that element but also I think I mean I'm not a great one for museums full of kids, things specifically aimed at kids, like a playground. But things like iPads; kids know how to work them from a very earlier age. So you don't have to dumb it down, kiddify it for them to enjoy it. Quite small kids, on that they know exactly what to do where to go and you think I didn't have to make funny little kiddy animal stuff, they still enjoy it even when they are looking at pictures they can enjoy looking at it. So yeah without having to turn it into cute animals or whatever else it is. So I think just the fact they recognize it and know how to work it they'd go like a beeline to it, and yeah in the visitors book there's lots of kids saying loved the iPad playing with the iPad that sort of stuff.

### **Brilliant.**

You know you wouldn't think that kind of thing was aimed at children, but there just pleased to have something familiar to them in an art gallery. I suppose that they could have a play with but then obviously Kevin's thing the Essex Open which came as partly as a result of moving, we thought we need to do this a little bit better than we did before. Just everyone's pictures being in and having to store them for ages and move them around, you know you scratch a frame and it's oh no you know which is inevitably going to happen.

**So with that particular project, that's more of a service moving online rather than a presentation. I don't know - are there other opportunities for museums in that way? What else do they do?**

What sort of doing something online that you didn't? Well things like enquires.

Recently on our website our enquires page used just to say email to this address, and I don't know if we've done it yet but the people who run the website could make it a little bit more deeper than that and provide a form and people could upload an image.

### **So you can control what comes through to you?**

Yeah and try and actually back things away before they even come to us, because you could spend everyday looking at old ladies vacuum cleaners that they've lugged mile and you just know that when you see the photograph, you just say no. If we can at least put a few people off at the early stage -send us a picture of what they offering us, or if its an enquiry instead of bringing it in and leaving it at the front desk, and then be left with this thing and no one will come and collect it. So we don't encourage anybody to bring anything and we certainly do not let front of house staff take anything in at all anymore and the online thing is very important in order to manage that relationship. Loads of people who are online anyway can do initial contact and a photograph, and you can tell most of what you need to know from that. So enquires is quite big, it's quite a bone of contention as well. Because front of house people, they think curators should come down when they call us. There's a lady here with an old thing but you know I can't just jump up and run downstairs. I refuse to do that. I'm in meetings or I'm not here, I'm not going to be doing that. But I think front of house want it away from them. Well I can't help you; someone else has got to come and help. So hopefully this way we don't want people bringing their objects in through the door at all. And there's never been a decent donation that way anyway that I can remember. The decent donations are from all the people who know what they've got; know how much its worth and they're still

willing to give it to you. And they want to do it properly and there's going to be a transfer process. Maybe the solicitors are involved or its a bequest, and the decent donations paintings for instances its all done - you know they don't just turn up with a bag. And you know people do walk in with a massive picture, it's usually some junk; you know the enquiry thing online is quite important to us. To us our day being interrupted times for nonsense really.

## **Interview:**

### **Seb Chan: Cooper Hewitt**

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**So I think I remember you saying you appointed quite a large number of designers and never do [the redevelopment of the Cooper Hewitt Museums].**

Yeah, the museum as a whole has 13 firms.

**13?**

Yeah 13 to re do the whole museum. Architectural firms, historic restoration firms, so we did a rebranding with Pentagram for the interactive stuff, we worked with Local Projects, we worked with Tell Arts we worked with this firm in Spain - Serstell. We worked for two days with GE and Undercurrent with a strategy firm helped us with the pan piece, particularly in sort of the last year helping us accelerate that. They're a really interesting firm that's where the consensus quote came from. They've now closed down they merged with Qwerky and then Qwerky the next week ran out of money.

**Oh bad moment.**

Fuck up yeah whatever.

**Yeah.**



But anyway, yeah it was challenging because I think it was such a wholesale renovation.

**Ok yeah.**

Exhibit design - we worked with think as well doing one exhibition whilst Delluis Configual and Rentrow were doing the other floors. You know it's when you re-open a museum you have to do all the exhibition spaces all at once.

**At the same time yeah.**

So anyway, there was a lot of design firms and you know I think when Bill Moggridge was alive, Bill coming from idea and from being a professional designer for years there was a confidence that was a sensible thing. But then Bill died in August 2012 suddenly and I don't think there was a sense of anything after that. And I think the museum we did good, we did great stuff, we made it work. But you know I remember after Bill's death that I was pushing very hard for the museum to appoint a GC - a general contractor who would manage the whole coordinate that so at arms length from the museum, and be sort of the owners representative or whatever or client representative. The museum decided not to do that for financial reasons but also for I think reasons of pride just misplaced pride. Museums are shit at that and we managed to pull it off and we split it up quite well. I took all the interactive and digital stuff and I knew how to do all that stuff. We had the internal capacity too so my team was full of people who were good at working with external people and we pushed everybody in different ways. And that was unique for museums I think and I haven't seen anyone else in the museum world who has been able to push back on external agencies probably as much as we did.

**Right, right so there was a lot of negotiation?**

So yeah you know for the interactive stuff we made it a co-design contract basically.

**Right right so you built that into your contract?**

Yeah contractually it was very much an internal it wasn't an R F P and then an R F Q and a tender thing it was like no no no.

**So you said you will iterate with us?**

Were iterating co-designing were doing this and I think to do the scale of change of what we did in such a short amount people and of time is not the way to do it. I mean the museum as a whole is only 70 people, so it's a small museum, it's not a tiny museum, it's not a big museum, it's got a lot of stuff, it's understaffed. I think it's understaffed by about 40 and the museum it had to no it don't think it had an understanding of just how understaffed it was because I come from a bigger museum and from lots of other places as well as a consultant. I was like wow guys you are fucked up. It was just we need to do great stuff but bear in mind we are going to do great stuff but you can't want to double your attendance and not staff up, I mean just can't your understaffed with the amount of you objects you have - one collection manager, two registrars for an offsite storage facility with two hundred and ten thousand objects its almost reprehensible to people I mean it is. I mean having left now I think I'm far more critical of the place structurally, it's not I think the Smithsonian to be honest. I have to step in and say guys fucking sort it out.

**Right, right.**

Because you've made this awesome place and it's succeeding on that level but professionalization wise there's still a fair way to go, I mean we got quite far with that.

**So within that context, so how did you pull together your team from the internal people?**

Yeah so you know Bill hired me and Bill became aware of my stuff and Bill found that I knew how creative teams should work and knew the best thing to do was to hire good people and get out of the way. And that's what he did and he was like he said what do you need? We've set you up to succeed just tell me what you need and if you need to bounce ideas off me or I think something's kind of a bit weird I'm going to ask you, but otherwise just do it. And Bill designed the laptop - the first laptop that opened like that the clamshell laptop is Bill.

**Oh now I connect.**

Bill is like a genius designer.

**Now it connects in my mind.**

So the Smithsonian hired him to be an agent and he was there for a year and a bit before I started. And then he hired me and he hired a bunch of other people too and we were all brought in. You know we were like professionalized and sorted out and make it different and unfortunately he died nine months in from brain cancer. But you know he was a serious genius organizational leader and he knew how to make shit happen, he was just very good. So anyway my stuff was very much about I mean I work from that philosophy to hire good people and do it and get out of the way and help people - be the shit umbrella as one of my team called me. The shit umbrella that's your role to protect us from all the shit and we'll make stuff and we'll ask you for things and you just make that happen, you know a lot about this stuff so we're going to ask you to tell us about if our ideas are shit but otherwise let us get on with it. So that was the process I mean my team was only 5 people

including me.

### **And who did you kind of get?**

So I hired Aaron Cope who was one of the engineers at flickr.

### **So you brought him in?**

I brought him in. So I had a vacancy for a developer and I actually reached out to Aaron and said look do you know anybody who I should hire? I mean Aaron and I have been friends for awhile, we used to work together and when I reached out to him to say look I've just had someone who I was going to hire pull out, do you know anyone? Because this is kinda exciting, we want to do all this good stuff. And he's like well maybe I'll come and do it and I was like fuck yeah let's do it. And Bill approved the salary that would attract him across because I explained to Bill - look Aaron is great and you know you want me to do great stuff, Aaron's really great and we can do great stuff together. And Bills like ok I trust you will make the right decision there so lets do it. So Aaron started just before bill died and I pulled in one AV producer from the education team who was with the education team previously. She was very green but she was very interested in human sense of design and really liked Bill and so I sort of steered her down a path, a UX path and she's left now too. Aarons left as well, but I mean Katie was in her twenties and was very up for it and she was great and she did some great audience research with us and leant a lot of stuff. And you know she didn't do any code but she was very good at doing graphics and design and stuff and just help working with people and help them work through things. Micah was a contractor before I started and he came on as staff as web master and he's been really great and leant a lot working with Aaron and working with me. And then we hired Sam in the last year before we launched as a junior dev to be mentored by Aaron and Sam's fantastic. You know I think it

was just about we put a lot of effort into hiring the right people when we could hire people. So Aaron, Sam Micah and another girl called Sarah worked with us for a while who was a librarian and was really great at cleaning up metadata. And Sarah was great - she's now at the York Public Library as a Meta data librarian. You know again it was about finding hires, and you know we used our networks to do that and then I guess once we started doing stuff, both Aaron and I and the rest of the team acted as talent magnets. I guess once you're doing stuff and people are well that's interesting, well come work with us. And we actually had some governments send people to us. So we had the Belgium government send us Hannah Deloda who was working in a House, Runa Lane it's a historic house I think in Ghent that does social history stuff. So Hannah actually made that UX video with Katie that one the demo of the pen. So Hannah was with us for a month. Virginia Gale was sent from the National Library of New Zealand; the New Zealand government to spend a month with us when I left just as I left head of interpretation from Tate Pupa was on a Fulbright place with us. So again we acted as sort of a hub for people.

### **A kind of skills exchange?**

Yeah skills exchange and we tried to make those things be as great for that person - the interns as possible. But we were in a position where we could select who those people were so it was very -

### **Interesting?**

I guess it's that sort of thing, no one's got enough staff.

### **No.**

And I guess if you've not gonna have enough staff, you gotta have really great people, you got to make them have a multiplier effect and let them loose I guess.

I mean Aaron's thing was I remember when I was talking to Aaron on the phone to sort of say are you serious about wanting to come work with us because your going to move from San Francisco to New York and it's actually going to kind of be a pay cut. And he's like look Seb as long as I can ship code I'm happy and we can do some awesome stuff and like if I can't shift and its got to go through weird approval processes fuck it. And I said no no your approval process is me, I'll approve it. We're make shit live like this one we're doing right and he's like it doesn't have to go through the director? And I'm like no it goes through me, I'm appointed by the director, I'll take all the heat fine don't worry about it, lets just do stuff. So yeah I guess it's that sort of senior digital people like people you know. I've sat on the museum executive now I was at the Power House so I was on the executive for four years, the last four years and I mean I've reported to the director now for the last eight years. And I don't think you can do it any other way. I mean for me to push through the amount of stuff you want to do you have to be able to say it's my domain, you've hired me, trust me it will be fine and it's my job in that role to build trust and to take the heat if it all goes to shit. But that's the job and I honestly don't think enough people see the role like that, they don't see that this is not a digital role anymore, it's delivering the museums mission, it's a senior role and you're just responsible for it. So you know like don't defer that and take on that responsibility and just do it.

**So in your talk yesterday you were saying that there looked like there were significant enhancements to the collections records.**

Oh yeah yeah.

**Yeah so how did you push that through?**

So we did you know I think the early days we had Mayor Ridge come and spend a

week with us. Frankie Roberto came through as well, a whole bunch of people came through and they're like our collections data is really shit and it's like yeah it's really shit and Aaron and I were talking about that and it's really shit. And I'm like yeah it's really shit but we're got to do it there's not enough staff to make it better, it is what it is. And Aaron basically just put joining words between everything, that's all he did.

### **So make it a narrative?**

Yeah so instead of 'wi fi colon 68 Middle Street' he would just the WI fi network is named database field the password for it is database.

### **Yeah.**

The Twitter handle is like all he did was put the joining words and the logic around doing that and it was clunky at first because sometimes the tenses were wrong and he hadn't built the logic into the code to do that yet. But over time that evolved and what happened immediately was it immediately changed how it felt and immediately it pissed off a lot of the scholars -

### **Interesting.**

Who were in the building, you know scholars and students coming in would go like what the fuck?

### **What have you done?**

What have you done? Why are the dates clickable? I'm like click it and see what happens and they're like holy shit I can see all the other things from that year, yeah no shit. They're like it didn't work like that before and I'm like yeah it's better right can you just put it in a list. So you know so much, like you know we did talk right up until I left actually, you know in library catalogues there's the public view and the

librarian mode which turns it into the weird mark formatting and all that we talked about having a curator mode.

### **Like that?**

Which would switch it like that, but I think the curators warmed up to it and you know what we did was take a collection that basically no one gave a shit about to one that people gave a shit about. But not the people who they thought would give a shit about it gave a shit about it so we had to change the language to make it accessible. We didn't change the records, I mean the records are still as terrible as before we just put joining words in there.

### **You put the polish on it?**

I wouldn't even call it polish.

### **A human touch?**

A human touch. And I think we should of cleaned the records up, we just didn't have enough staff, it's sort of in the absence of staff what do you do, oh right let's make the user experience better.

### **So the other thing that's interesting is so the co-design that you're were doing with designers.**

With the local projects and with Tell Art and with ID.

### **So how did you actually manage that? Did you kind of have sessions together a lot?**

So yeah we worked a lot with yeah local projects. All those teams had project managers but they knew we had a highly skilled technical team, you know about



5 of us so not really very big. But they knew they were working with names, they knew they were working with people who everybody knew. Everybody knew Aaron, everybody knew me, everybody began to know the others on the team and I think they were like well we probably think those guys probably know something and you know we do -

((interruption by third party))

We just made it clear that your working with us you're not working with people that don't know anything about this stuff. We're gonna call bullshit on your stuff and we're gonna be difficult and for the most part they will go wow that's awesome! There was some tricky times where I mean there were some local project things that we strongly disagreed with and fought to have them taken out and there were some stuff that we were like that was a really good idea we got it wrong you guys should totally build that. It was a good trade off and I think Kristian Schwarker who was their project manager at their end.

### **Which one's this is?**

Local Projects. You know she would have to run everything through Jake as a principle there, but Jake and I knew each other and you know there was a mutual respect. Pentagram would begrudgingly build that respect with us, they are not from the museum world so they are like who are these people? Why do they have these strong opinions about stuff? They might be right, what do we do about that?

### **Interesting.**

We built a mutual respect over time. I think having the in house expertise that was really like in the sector known, it can be a bit of a curse but if you can turn it

around it can be really valuable and I think that's something I mean Aaron is very opinionated. I'm reasonably opinionated, I'm a little more tolerant of museum time, the speed of museums, Aaron is totally not tolerant of that and he shouldn't be. I mean he's not from that world right so why the fuck isn't that done? So it's museum time Aaron you got to give people like six weeks. No that's fucked up, it should be done tomorrow and I'm like no no we're get there, we get it done by the end of the week alright? It's my job to go hassle the curators or whatever, it's fine. But you know I guess he was very critical of the engineering practices of pretty much all the firms except Talah and Sestell, he was very critical about Local Projects technical capacity because he knew how hard this shit is and that was very good to have on the team, but that's not cheap, I mean you know I'm not cheap, Aarons not cheap.

**What about the kind of design aspects of the user interfaces that you were generating?**

So yeah we were extremely opinionated on that, but so was Local Projects and Local Projects right up until two months before we launched wanted to have email address on the interactive tables. And I was like no Jake I do not want that. He's likes no one will go look at their stuff if you don't do it. I'm like no because email addresses on big interactive tables are a privacy thing and they suck, I would not do that it is just shit and Aaron was like it's not just shit its completely fucking shit its awful don't fucking do that. And Jake was like look I totally disagree we have to do it and I'm like no no we're not going to do it. And Jakes like wow you managed to pull that off. I'm like yeah because you were responsible for the tables but we saw that the tables we're part of a whole ecosystem and we gave a shit about the ecosystem. So we knew if you weren't going to do it there we had to do something else, somewhere else and I think his thing was no other museum would have realized they would have to take up that challenge and implement it somewhere else. And he's right because

none of his other clients probably would have done the work with the security guards and the front of house and the scripting work and all that stuff that Katie did from my team, with those people to say we're not taking those email addresses so you need to up sale keeping your ticket telling people, put their ticket in their hand bag you know file it away and that sort of broader design piece. Digital teams don't generally give a shit about that so the agencies you work with have to be well like fuck it your gonna blame us for it because no ones looking at their stuff, so we're going to make our stuff forcibly do this and it's like no the museum needs to consider this and that's the holistic piece that I think the holistic design piece that I'm extremely interested in we're able to do.

**And as you were working with them how did you exchange your ideas what were you using?**

They would present all the time to us, we'd go down, we would do reviews.

**You would go down to them?**

Yeah we go to their offices or they come up to us and we would try to do the reviews with just my team if possible. And we would only bring the director in for sign off periodically so we tried to limit exposure of unfinished prototypes and I had to be the shit umbrella, I had to sort of protect the agencies as much as -

**As the other way round?**

Yeah because you know there was a lot of stuff.

**So did you invest you're own time into the prototypes? Like where you actually contributing?**

Yeah, oh yeah, definitely yeah, yeah I mean we were because of the API we were

making all that.

**You made the API?**

Yeah we made the API so we did all that stuff in house, we did all that stuff in house so we were continuously releasing, continuously making things.

**And how did dialogue to the outside go?**

So we went to Local Projects and Local Projects would say oh well we need this, we've done that already, there it is, there's the code or we need it to do this. I make it tomorrow to be there they're be like holy shit how did you do that? Well that's why we did the API so it's a rather unique process.

**Yeah, yeah well I think that's us done but thank you very much though, cheers.**

Peter Pavement

**Interview:**  
**Matthew Cock, British Museum**

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**So if you could just introduce yourself and let us know what your role is at the British Museum**

I'm Matthew Cock and I'm head of the Web Team in the Department of Digital

**And so today we're going to talk about possibly three projects, that will be the Pompeii and Vikings exhibitions, and the role you had in that. And also the History of the World in 100 Objects work you did. So maybe we should do this chronologically, so we can start with 100 objects. So basically how were you involved in that project?**

I was involved by being the main liaison person between the BM and the BBC Radio 4 team. The kind of practical doing making level. And the museum had a kind of steering group, there was quite a lot of people from our side and quite a lot of people from their side, and there were marketing people on either side, there were press people on either side, there was the production people for the radio series. And I was kind of the web team, the web person. And then what happened was there was quite a lot of discussion before about how the digital aspects of the project would work, and then the actual production part of it where something's happened on the BM platform, something's happened on the BBC's platform. But whatever happened on the BBC's platform they didn't do without our consultation or involvement, it was pretty collaborative. We got to review and agree how the site would look even though it was on their platform. We had an initial discussion, because you know this was the first time the BBC had done this kind of collaboration. Normally they don't do collaboration - you are their subject, they would come along and say we are doing a program about you and we're doing it on ours. But with this it was them straying into new partnership territory. We were kind of equal partners. Now obviously not equal in terms of size and capability and audience reach. And actually that influenced one of the decisions, there was a discussion about should we have the website, the web presence, should it be on the British Museum site, should it be on the BBC site or should it be on

its own domain. And we basically chose the BBC site purely for traffic in the end, and the biggest advantage is that they have one of the most visited sites ever. So why would be kind of ignore that? And then we chose not to do it on a third one because for the same reason - why give up on all that audience? We've already both got to build an audience and then that one your going to lose soon afterwards, so its that decision but we still had a big stake in how it works, and of course we then produced the content.

**And how did that content production work? What was the kind of process for that?**

The content production works well - one of my team, one of the content producers in my team really produced that content, which at the time he coordinated and produced the text for the pages, gathered the images. But as the project was already gathering images for things like the book and things, again that was actually done by someone else, but he kind of then prepared them for our use. And this is the thing that is going to come back to us with Vikings and Pompeii. Once you've got a project surfing one media you can co-ordinate it with other media, and we also did some videos of the 3 dimensional objects. I can't remember who did that but we commissioned it.

**You commissioned it to a third party, yeah?**

No I think we may have got a freelancer in to do that, I can't remember actually. It was in house rather than external because they had to come into the photography studio.

**And so the BBC hadn't collaborated like that before?**

Apparently not, no.

**No and I've seen that somewhere else actually but had the British Museum collaborated in such an in depth way before?**

Yes in terms of collaboration for a web site, the BM collaborates all the time - research projects with other partners and such.

**So media production?**

Media production? Again I couldn't answer definitively, but in terms of websites we had actually on the National Museums online learning project - which created the Web Quests and the other projects whose name I can't remember slightly, more ill fated one that came, but that was with 8 other National Museums.

**Different museums?**

Yeah, rather than a one to one, but I don't think we have on a web project.

**So back with the 100 Objects project, the inclusion of regional museums on to the web platform - did you co-ordinate that or did the BBC?**

That's a good question. I think they coordinated it partly because they did it through their regional branches, whatever their called but because we have a number of UK partnerships and a team here that does a lot of different areas, like learning stuff there was again collaboration at that kind of steering group level between our head of UK partnerships, and one of their regions person to talk about museums - you know which museums we wanted to approach for that. So again I think it was collaborative but using the strength of the BBC's partnerships as well, and that was quite interesting because it wasn't just the submission of objects, including the objects that also resulted in some really good, really interesting partnerships - where some of the local BBC teams went to the museums and made some short films

relating to the objects, and those were used on the local BBC Kent or whatever, but also got pulled into the History of the World site, I don't think you saw those.

**I don't think I did actually.**

Yeah, History of the World was a partnership that extended to museums across the UK, inspired by a BBC Radio 4 series, museums teamed up with the BBC in their area and selected over a 1000 objects, so they show the objects.

**Are they linked to objects in the film?**

I thought there was a link in there, where they had the films, there's one link to some extra stuff that happened in Wales.

**Oh yeah.**

I think I may have mentioned that in the paper I provided.

**I'll have a look at that.**

That was a really nice thing that came out of the partnership media creation through those local partnerships and the central themes was then carried on.

**And as a result of doing 100 Objects did you find that your practice changed in the ways you did things here? Or the way you approached other collaborative projects?**

I'm sure it definitely influenced the subsequent collaborations with the BBC and Shakespeare and Germany. But they were kind of smaller scale; they didn't have the same online ambitions. There was a brief discussion with Shakespeare about how we could make it more national because the Shakespeare exhibition and radio series was in the same year as a big Shakespeare festival. So there was so much going on



anyway around Shakespeare so we didn't need to carry on. There was a discussion of whether we would step on other toes of people doing Shakespeare stuff. It was drowned out so we just had to keep what we were doing to be very clear with that, rather than trying to be too general with Shakespeare, because it was being done elsewhere. So it defiantly influenced how those collaborations went, and at the time the History of the World was a very bespoke website for the BBC and by the time of Shakespeare and Germany, we didn't do anything bespoke on their website. It was like any other program or group. But again, we provided a lot of the content and obviously the images and text and also some video material. Did it influence any other things? I think it also gave the museum confidence to do Vikings. Pompeii first then Vikings and we'd learn't about that as you say transmitting stuff. I don't know whether it influenced the decision to do them or how we did them - probably a bit of both.

**Did you see any differences in any kind of organizational things after that?**

**Have there been any changes in structure and things like that?**

Not since then. However there is change in structure about to happen in our team which I can't really talk about because they are still in process.

**Was it 2010?**

History of the World was 2010.

**So lets move on to Pompeii. So if you could give a little run through of your role in that.**

It was Pompeii and Herculaneum, as the curator would remind us a lot. Pompeii and Herculaneum was our big exhibition in 2013 or 2012, I can't remember 2012 or 2013 you can find out.

**I will look that one up.**

And there was two decisions. Firstly to kind of support it, was to do a live cinema broadcast and also do an app about the exhibition. And the live cinema broadcast your talking to Patricia in a bit so she can talk more about it. We did two things for it. The Pompeii Live aspect one was to create web content, as it was kind of marketing content to help sell tickets. Content to support the exhibition which kind of got released in a two week period after the day of the live broadcast. The good thing about a live cinema broadcast, you can do it over a few days but essentially we did it once. And because Pompeii and Herculaneum is about a thing exploding you can kind of use that as a countdown so what we pretended was that the day of this live cinema was the day of the explosion. And actually because the explosion, the moment when the whole thing started erupting till the end was like 48 hours, actually in the 48 hours before the live cinema broadcast we did a countdown including on twitter - we'd say this is 12 o clock and this happened the lava reached here, the temperature would have been this, and the plume would of been this. So we did lots of countdown things and we produced an online timeline that we built up during that time. Just thinking I did a presentation on this, similar to the one you saw on History of the World.

**At the seminar here wasn't it? Did you do that for Museums Practice seminar because I saw that and I tweeted you then.**

So you remember there were 5 things. The multimedia guide book and you know those other things, so yes we released that on that timeline beforehand. So there were 3 kinds of phases there was that kind of before hand to help sell tickets, and then that was kind of expanded and transmitted over twitter. There we go the eruption story that's it, and then there was during as well, so we set up a kind of a

room and we had the script and we had lots of images prepared lots of the ones that went into this timeline and other bits, and we knew what the presenters before they were going to say it so, we could line up and live tweet the show at the same time. And you know we're using little bits of the graphics when relevant so we had all these chopped up into individual bits so that we could re use these.

### **Who provided those assets? Or had you originated those?**

We did have an extra bit of budget, and we did get a designer in for a couple of weeks beforehand. They worked here with the team. We had good access to the curator, and the exhibitions currently have two curators: the main curator - the curator who's been at the museum for a while and knows the collection really well, and we have a project curator who's usually a very early career curator who might know that subject and is a kind of support, knows the subject matter but has more time to run about and help out with these side projects. So we had a lot of input from her as well, but you know we would of had the catalogue book, so you kind of gleam things from that. And then things like this were made for the App. So again there was one aspect of the App. So we made a short animated video of the eruption using kind of CGI - that's quite a grand word for it. And we can chop different sections of that up so we put them on the timeline; the video was made for that. And if you go to the bottom of the timeline again we promoted the product - don't forget to go and see the exhibition buy the catalogue use the App.

### **So you were saying you knew what people were going to be saying in the live presentation so they had a script that was outlined?**

Yes. So if you think about it, it's live but in the same way Strictly Come Dancing is live, it has a structure, its been rehearsed. About 50% of it's been rehearsed and pre-recorded, so you've got a mixture of people, the presenters standing in the

exhibition. Now some of that was filmed live, some of that was not filmed live actually because it was difficult for the exhibition space. Some of those spaces were very tight and you couldn't film people easily without getting sound equipment, the lighting, all the things in the shot. So those were done before hand where you had more time and could do things to avoid some of that. And the other bits were reasonably well rehearsed. It's not like Strictly Come Dancing where actually you don't know who's going to win. It is in a way where they go well let's go and see a rehearsal or something like that, or here they are in the judges house or something, you know we would have done in the week before or whenever it was some kind of preset thing that's true for the children's version as well, probably more so.

**And so how did the children's version differ from the adults?**

Different presenters, different scripts, quite different really.

**Was that mainly for a schools audience?**

Yes it was very much for schools. So it was done the following day and went out in the afternoon. Schools would book a whole class into the cinema. It wasn't open, we didn't do a lot of online resources for that.

**For schools?**

I think we did some for them, I can't remember actually.

**And if there are online resources to be developed, is it your team that typically developed them?**

No we haven't. The schools team do that, and they have a web editor post that sits in that team that works with the rest of the schools team to help make online resources. We support them.

**Semi autonomously?**

Yeah semi autonomously. We offer technical and production help if needed.

**So the tweeting - did you use other social media?**

Twitter and Facebook.

**And that was your responsibility?**

No, that was marketing. The marketing team run our social media channels. Well they don't run them, all they run is Facebook and Twitter. So they did it but as we had been doing a lot of that work before we kind of helped them and gave them the images. We collaborated with them actually with Vikings. When we got to Vikings they did more of that autonomously. I think they kind of learnt from that first one, they were more autonomous doing that.

**Did you have moments when activity on social media was coming back to you through the site that you had to respond to in any way?**

Yes and in that kind of control Centre downstairs, we had a feed from the broadcast truck into the back of a TV monitor so we could actually watch it happening, because we couldn't be in the space. We actually did have somebody in the space actually taking some behind the scenes photos, and he'd come back in sometimes and hand them over. We also had, I can't remember who it was actually, we had a curator on hand in case we got questions. I remember with Vikings we defiantly had the project curator. I think they were in that room as well because he wasn't needed, he'd been doing more presenting on the children's one but for that he was back in. So if someone asked a question we had someone on hand to answer that, so yes that got managed as well. And we also just had a few senior managers from the museum

as well who just wanted to see it, and they didn't want to go to the cinema so we had to look after rather senior people as well.

**So the app. Did you produce that at the same time?**

Yes. We didn't produce it in house, we did a very speedy tender and awarded it to a company called Apadmi, based in Manchester. And they'd done a few apps including I think one for the BBC, well they'd rebuilt BBC's radio player app in android. So they were very solid technically and one of the reasons we accepted them was they were highly recommended doing things quickly and robustly, good engineers. We went to them with quite a polished idea of what we wanted based on the idea of two things: one is a map you know here are the cities here are the street plans of the cities, and the timeline idea as well.

**And actually to explore that, how was that polished? as in how did that take shape?**

Well it wasn't polished in terms of visual look, but in terms of the idea. But then we had an intensive one or two weeks where we worked with them to fine tune that. That was partly very pragmatic you know, what literally can we do and what are our assets, what have we got. Because we don't have time to do a massive 3d model or do this and that, we worked very closely for two weeks because then there were only two weeks for the build essentially.

**And did they come and work here?**

They did spend a lot of time in the first two weeks, but then it was mostly remotely.

**And things like the CGI film you had in the app - did they produce that?**

Yes they produced that. They produced the visuals, although one of my team

worked very closely with them, he had a lot of creative input and actually for the period of the development for that he was kind of almost full time working on it from our side, gathering all the images, giving a lot of creative input. We also decided to bring in another company to do the sound because they realized that it was just going to end up silent which you can't really have, so we hired another company to do four days work to do this kind of sound scope.

### **And then what kind of sound did they produce?**

Well it was the sounds of people dying, the chatter in the streets.

### **It was atmospheric?**

Very much atmospheric. And there was a bit of voiceover. The voiceover which we didn't have to write the script for that as we were using Pliny the Elders eyewitness account. We just edited bits of that and they recorded that voiceover and that was timed in with the different periods of the day.

### **In terms of getting the app out there at the right time and all these different things - how was that managed?**

Again they did the release into the App stores. A period before we produced the App, Apple got in touch with us, and I met a guy. Apple kind of have an engineer evangelist for lots of different areas and they go and meet people, they actively seek out what they call a list brands. And so they say you should be on the App store, is there anything we can do? Just let me know. There's not one person responsible for museums but it's his second thing. He does healthcare but that's massive and museums are probably just 2% of his time, this is an extra bit. He got in touch and I said we're producing an App and it's going to be released for approval on roughly this day and he said we will keep an eye out for it. And actually because they

normally say two weeks actually it can be longer they did it in the same day. He's probably moved on I've pass on my apple details to several other museums since then, they are there to help so we could get it out as quickly as possible because we hadn't quite given ourselves enough time because it was quite a late decision to do it, the exhibition had been open for two weeks.

**Oh before it came out - that's interesting.**

But still it was a sixth month long exhibition.

**Did that have any effect as in did the later release of that give you an discernible effect in terms of marketing? or anything like that?**

In terms of marketing?

**Yeah, did you get a new audience that you didn't have?**

I don't know how much the App gave us an audience we didn't already have for the exhibition. That was something we weren't able to ascertain, but we do know that 50% of the App sales were from non UK App stores, so likely those people wouldn't have come to the exhibition anyway. Anetdoctly some people who brought it also came to the exhibition, when you do it some people will say oh how many people will be buy the app and then not come to the exhibition.

**Yeah you always worry about that.**

Which I do necessarily think is a big problem.

**And it's for sale?**

We did sell it yes. Some interesting learning on that. I think I probably talked about it on my talk selling at a different price point for iPad and iPhone and it really wasn't



on my phone App. It was essentially the same content and a very large App which people don't want on a phone, they won't read all that content and its going sit to there and take up all that space, and people don't pay 3.99 for an App for their phone often.

**And so it sold mainly on iPad did it?**

The largest number of sales were for the iPad version.

**So I think that exhausts Pompeii in terms of production.**

Yeah and then there were the multimedia guides.

**Oh in fact it doesn't exhaust it then - so multimedia guides?**

For a number of years now we've done a multimedia guide for special exhibitions which is still essentially an audio guide model, where its very much audio lead but we have images and occasionally video on screen as well, to use as secondary images. But the audio will kind of say 'blah blah blah and this is similar to a sculpture in Pompeii in the Naples museum, look at your screen to see a picture of that' so you kind of look at that and it will talk about it and now look back at the object and we very much have the guide to be a very audio lead experience, but as I say there is some imagery.

**Does that use the standard hardware that you rent out to people when they come?**

Yes, it's the same, it's essentially on an android device in a case.

**Is it produced by one of the audio guide suppliers?**

No, we hire the hardware and we originally used to use their software but we built

our own App to run it now and we build the content into the App each time.

**So it's deployed into the device in its entirety?**

Yes.

**Each time?**

Each time. Yes we will give that App to Antenna about a week before, they load it into the players and depending on how big the exhibition is up to 250 players, and then they bring them in back to us as it were.

**Ready loaded?**

Ready loaded.

**Brilliant, okay we have covered it now.**

And actually the person who builds the App is a freelancer and is the person I was saying who was working with us.

**So Vikings. A lot of experience from Pompeii went into Vikings?**

Definitely. Firstly no App. We decided not to do an App, but what was similar was a live event and web content to support the live event. We took a different approach to the web content, there wasn't such an obvious timeline, there wasn't such an obvious thing to parallel so we did a more thematic approach to it. We talked to the curator and chose a number of themes and then did kind of several overlapping things to support that, and before I carry on I'm going to find it on the website so I can wave my hands at it so these are some of the things.

**The thematic strands?**

We wanted to make it very much relevant to the Vikings in Britain, about their influences. So we worked with two parties on this. One was the university of Nottingham who produced the database of English place names, and so actually this is done with a local copy, but we could of done an api of that database. And then the people from My Society did some pro bono stuff for us, they wanted to do a case study on a cultural sector organization so they did this free for us.

### **So they built the map?**

They basically did. We gave them a copy of the data and they did the interface and built it so that if you clicked it would pull up this data, and it also did this nice thing. I would describe it for the recording - it's basically a map of the UK using Google Maps. You search for your postcode or your place or you can browse it and it will find the nearest place you searched for or show all the nearest places that have a Viking influence in the name, and it will explain that. But it will also show the nearest cinema to you that is showing Vikings Live so it acted as kind of fun marketing. You could also share that place, so if you shared it on Twitter it would then if it was still working.

### **So did people share it?**

It got quite a lot used. Obviously the number of people who shared it was slightly small, it was comparative. One thing, this is quite worthy and serious, it's fantastic what I find most amazing about it all stops there.

### **What was this?**

This black line, we put this in here.

### **The kind of extent of the Viking conquest?**

Yes that's if you click on it. It's the Danelaw boundary. That line represents a border described in a treaty between Alfred and the Viking King that was meant to be the demarcation, so that really shows in reality that you can't really see the shape of it in the place names, they start to stop or fade out. There are a few over there, some of them it could either be old English or old Norse depending on how you read it but they do tend to fade out except for some weird ones like the out lies, but then you have to think it's probably not Norse just a coincidence. So we did that and then we did a slightly more fun one - Viking yourself, which kind of plays into the whole selfie obsession. So you enter your name you put your first name in, it generates a surname - here's the history bit. You upload a photo then you can add some of the objects from the museum, like brooches and helmets and weapons, and then you can download and share it. And then we did a gallery and we had hash tags for people to share it with and we used that hashtag to drive a feed on the website. There was a manual stage in that we had to re-tweet it for it to also show so, we only re-tweeted real ones. But we got a lot of those which was great. We did one other fun thing and what we did an Easter egg where if you type a certain word into the search box it turns the entire page into Norse runes, but I've forgotten the word and then we kind of linked to that on social media that was slightly annoying in the end we told everybody after a few weeks but we tried to get it to go viral without us having told it.

### **Did it not quite catch fire?**

It caught for a few people. Somewhere I've got a record of how many people did it so it was slightly more playful I think than Pompeii. I think with Vikings you can be a bit more playful. With Pompeii and Herculaneum, it's quite serious you can't trivialize even though it was that long ago, as people died in a pretty gruesome way. And when you go to the exhibition there is a sense of it, so yeah with Vikings you

can be a bit more playful.

**Did you do a similar thing with the film?**

Again we released those in the period after the film, but again there wasn't such as obvious structure.

**And did you do the kind of on the day live support then?**

Yes. Our team wasn't so involved then, it was marketing.

**So the kind of media aspects of Vikings then, just to list them - the site, the activities on twitter?**

There was a catalogue obviously.

**Catalogue published.**

There was an audio guide.

**Audio guide. You did the cinema?**

It's the same, but without the App.

**Without the App. But here you had the new gallery as well that was part of it.**

Yes. Vikings was the first one in the new exhibition space and that reminds me of just another thing, the ship build. Again we used graphics from the exhibition space, there was a great drawing which I'll get to the end of this, so there were drawings of a Viking ship. We took that and broke it into its parts and made it into an animation, so again that artwork was done for the gallery. We went and talked to the designers and said what other work are you doing for the gallery? Can we use any of it? So we

can use it and make it into a simple animation, and that map I showed you - we ran out of time we were going to make it a bit more interactive, we ran out of time, so we just did it as a static one, just showing the extent of the Viking exploration. And again that's just some of the themes we worked with. Its very much Vikings in the world, so place names, maps and the ship they are all related to those themes. So it was a kind of different way. The next one when there's a live thing where you might structure it in a different way depending on what works for it.

**Do you think that the cinema thing is becoming embedded as kind of a thing to do?**

I think you'll have to talk to Patricia about that.

**That's one for Patricia yeah.**

I expect so. I think they are very time consuming for people who are already doing an exhibition and a catalogue and everything, so I think what Patricia and I might say is that we're interested in looking at for permanent collection as well.

**On a kind of more day-to-day basis, what kind of system do you use to control the project within the work you have to do? How do you kind of project manage basically?**

Luckily were quite a small team, so it's normally only one person responsible. We do use a few online tools mostly Trello we use a lot to share design work apart from that I wouldn't say we use a lot of other things.

**And how does information come into you and your unit and out of it? How do you communicate with other suppliers or other teams?**

Other teams, a lot of meetings or emails. Wish it was better, we're still quite an email

driven organization rather than having any shared spaces. I think people assume because you're in the same organization you don't need those, actually I think it would be greatly useful to have more collaborative ones, it always ends up the digital team using the tools first and then slowly introduce them to other people.

**And so when you're working with the App producers, do they bring project management?**

That often happens on things where they have a tracking system, or project management, Basecamp that kind of thing. And that's good when you're working on those projects but actually what would be better if we did it the other way around.

**If you brought them into your kind of imagined system?**

Yeah we're not working with external agencies a lot.

**Actually just thinking about catalogue production and the publishing side of things, is there any connection there between the work you're doing and the working they're doing? Is there any kind of asset exchange you're getting?**

Yes there is more. So because the publishing team has been in our department for a couple of years and because they need the longest lead time on things because they need to get the book out, there often are the ones who will do that initial image gathering, and I often find myself going to them and saying can I get this image or that image or give me all the images. And that very much happened with Pompeii, you often have to do separate rights clearances because there was the Treaty of Rome that happened a long time ago.

**Copyright?**

Copyright thing where all museums agreed for exhibitions, and this was included and that was fine but it doesn't work with everybody, and for Ming we had to do very specific negotiations with the Chinese people.

**You mean the holders? The copyright holders?**

Yes, to get permissions from the museum to use those images but anything that's new and outside of that isn't included.

**So any digital work?**

Any digital work especially for things like the App, a paid product or something a bit out of the ordinary. And so for speed what normally happens is that a permission form will go to the lender when they ask to borrow the object so this is for the usual blah blah blah and then we had to go back and say its getting better its getting better.

**So it's becoming more routine?**

More routine to ask for wider things. Although it's easier to get afterwards. For the Germany exhibition where again we were doing the radio series with the BBC is that we sent out one things really early on which was clearing for British Museum website, the BBC website, Penguin who were publishing the catalogue and we just covered it over in one go.

**So it was much more thought through, and just thinking about the difference between the 100 objects and the subsequent objects is that there was no exhibition for 100 objects?**

Not technically no. But all the objects were on display, they were re-labeled. So if you came across them in the gallery they were more visible. They had kind of



banner labels on the side of the cases with the logo and stuff and they had the label re-written and there was also a handout, if you went up to the front desk you could get a floor plan that could show you where all the objects were. Not all 100 but about 96 of them, although it think they pretty much did them all - even prints and drawing. They found a space for them so there was a physical manifestation, and they were on display for the duration of the series but there wasn't an exhibition with a ticket price. But the thing that we did have that was easier that there was very few copyright issues there's a Hockney and a couple of other ones at the end of the period where the rights had to be dealt with that wasn't too much of a problem.

**And did you find that you had any kind of changes in direction in any of those projects coming from unexpected places?**

I don't think massive changes of direction. I think it was a general theme of starting off with many more ideas and then it was kind of honed down. You know some aspects were not going to do this or there's too much risk involved and that's at a macro level, a smaller level. Things like functionality on the website, you know there was much more ambition then some of that honed down - we shouldn't do that. Some of it was in the build phase, we're not actually going to get that done, lets focus on that and its lower priority. That's all right in terms of the History of the World project, smaller things were decided - that just me and my counterpart at the BBC but larger things would have gone back to the steering group and said we're not going to do this, is everyone ok with that? That was usually fine or there were things that never even got there, things were discussed at the steering group and then the next week we thought actually that isn't going to work. But no more in general where you have a huge ambition.

**And how's design managed? Who originates design for the exhibitions?**

That's a good question. Design is split across three areas in the museum, there isn't a central design unit. There's the marketing department who essentially do the 2d design around the museum and the exhibition posters and marketing. The exhibition department have designers who design the inside of the exhibition department, so yeah marketing do the outside of the exhibition, the exhibitions team has designers who do the 2d and 3d for the inside, and then the web team has a designer who does the online stuff. And we obviously work closely with marketing designers to make sure our online is closest, so our online presence looks like our posters and their emails stuff like that and then there's a different designer for the book.

**Yes of course. So you're coordinating with marketing, but do the interior exhibitions team co-ordinate?**

Yes, they will co-ordinate.

**So it does join up somewhere?**

But things like when you go into the Ming exhibition when you go in there there's kind of a holding space, its like going through Heathrow Airport where there's big screens and it tells you the ticket prices, and if you haven't already brought your tickets you can buy one. You can get the multimedia guide and there's a big digital signage screen out, and again we do those digital slides so we do digital design for screens in the museum.

**And that's kind of interesting in itself, you know because digital signage becomes a thing. Does that automatically go to you or is that something that you kind of pursue in any way?**

We don't do every bit of digital design. So for example banner ads, marketing team will buy online ads and their team will do a small video banner and static banner ads

and they will design those and they've also done some external ones like bus stop ads, large things like that.

**And they do those autonomously?**

They do those autonomously.

**How does the lesson learned from each project get fed back? Is there any kind of capture of that?**

That's a good question. There often are wrap up meetings for exhibition projects, and projects that go through the museums project board, you have to do wrap up reports and talk to all external stakeholders. And that gets seen. There are reports done for the board and that's for all exhibitions as well for most projects, the Pompeii App was one such project, and those projects where there's a discreet budget attached to it. But for instance our web support for Vikings, web support for Pompeii - we wouldn't have had to do that kind of report but were always being asked for stats on very specific things like that often for sponsor reports, because they need to kind of feedback to the sponsors but that only puts the positive obviously.

**And the projects board, who makes up that?**

The projects board is normally two deputy directors. So one in charge of operations and finance so making sure that things run smoothly and to money. But also the deputy director responsible for our area as well, so if there's the exhibition one, the deputy director responsible for it and public relations is on that.

## **Interview:**

### **Patricia Wheatley, British Museum**

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**So could you introduce yourself and tell me your role here at the British Museum.**

My name's Patricia Wheatley and I'm Head of Broadcasting here at the British Museum. Do you want to know a bit about what that means?

**Yes, please explain.**

So I have maybe about 3 different areas of activity. One is I deal with relationships with broadcasters and the museum, so obviously we talk a lot with the BBC.

Broadcasters from all over the world come here, there are very specific jobs where they want to come in and film for a few hours. And we're just part of the story.

Others are much larger relationships for instance. We have a major relationship with NHK Japan, that involved getting to know a lot of new people. Night at the Museum 3 has used us as their next location, so there's those kinds of relationships, that can be very small or very large. And then there's commissioning and co-producing, they are the biggest thing, and obviously there's internal - helping people understand what media is and working with colleges in digital, but also with the curatorial team. So obviously Matthew and I overlap in terms of helping people across the organization to understand broadcasting. So going back to what your interested in, which is The British Museum as a producer, I came in 2005 in a sort of attachment from the BBC, I spent most of my life in the BBC as an arts

producer director and then series producer and I came for 2 months I think and then didn't go.

### **Didn't go back?**

Just stayed here because I was having a wonderful time. And interestingly I've been a producer working with the National Gallery, so when Neil Macgregor was director of the National Gallery I made four series with him as a producer, all for BBC 2. But of course that involved getting close to the institution, and then again later I made two single documentaries with the British Museum - one about the Great Court and another about the Top Ten Treasures at the British Museum. Both of those went down very well and I got to know the institution, so I'd already thought quite a bit about what the BBC's relationship should be with public institutions. And we should encourage that from the BBC side. And then when I got to the British Museum I definitely thought we should encourage that relationship. And we started off with a commissioning round. At that point certainly the British Museum had not got a broadcasting strategy. Jan Mackle had come in as head of communications and she was keen to get that kind of expertise and thinking, so she and I worked together to do a commissioning round. And we invited broadcasters to come in and pitch ideas to us and then we looked at what we wanted to do and planned ahead. So out of that came a few series with BBC 4. And then History of the World in 100 objects which was a 100 part radio series, and that's where we made the real leap into being a producer in the sense that while BBC Radio 4 internal staff were actually the producers, it was a very equal partnership because we provided expertise, we provided objects, the location, our presenter and we drafted the script. So basically we got the scripts to a point where we handed them over to the BBC and although they were back and forth, generally the BBC did the music and the interviews, but otherwise it was mostly Neil Macgregor's script. So that's what a

public institutional and public service broadcasting getting together, but on a level of equality which then did I suppose have a commercial outcome in the sense that there was a book, and that sold and has gone into many languages. But the impulse wasn't commercial; it was about reaching audiences and together being able to reach a big audience. And since then when it was done in 2010 we've had 36 million downloads of the series, so it's fantastically popular. Going on from there, the BBC would come in and make a film about our exhibitions so that would pretty much be us facilitating the BBC coming in, or other people, but then our next step was to take a bit more ownership of the production process, it was to make marketing videos which weren't really marketing videos, they don't come from a marketing budget, but we do one trailer and then make 3 or 4 support films for YouTube and our website, which would then focus on different aspects of our current exhibition. So most of what we did for a few years was cluster around the exhibitions and elaborate on the themes and to draw people in by talking to the curators and talking to other interested people. And then more recently in 2013 we did Pompeii Live from the British Museum and entered the cinema market, so we did a 90 minute broadcast for a general audience from the Pompeii exhibition, and actually another live the next morning which was sixty minute broadcast which was for Key Stage 2 primary school children. And we followed that model again for Vikings this year in 2014 and I'll let you ask a question now.

### **How did that decision get made to start using cinema?**

Basically we had a new head of digital media and publishing coming in, and actually we had discussed doing events around Shakespeare in 2012. Shakespeare was our Olympic offering, the Shakespeare exhibition, but it was just too hedged about due to locog, and there were special restrictions on what you could and couldn't do. We had to have Coca Cola advertising or something, it was just too complicated. Also

we arrived at it rather late. Pompeii was another matter and I think when we got to Pompeii it was just such a fantastically popular subject and it was so oversubscribed from the start. It seemed if we were going to do it, it would be an opportunity, it was very risky really. I mean the National Gallery had done it with back in 2010, 2009 maybe and it was a brave attempt but didn't really go anywhere. So it was a combination of Sky Arts with Phil Grasses Company, who are now doing Event Cinema Productions. And I think there was another producer in the mix as well. They did it live and I enjoyed it. Unfortunately it had some technical problems, you couldn't see any details of the pictures, which was the one thing I'd gone to see. So that was the only time a museum or gallery had attempted it, so Pompeii was the first time the museum had done it. And we didn't know but it was just fantastic and popular entity. Live had established themselves, they had got the Royal Opera house up and running, and so we did Pompeii and it was extremely successful. In fact more successful than Vikings. So interestingly I think its about what subject you do, and I'm now scoping how we go forward, whether we have a regular slate, whether we just pick some big subjects, whether we line up with exhibitions or whether we do it with the permanent collection. So there are a lot of questions and a lot of just quite hard figure bashing, because everyone got terribly excited about Pompeii. You know the whole business sector, the exhibitors got excited, distributors got excited, other content owners got excited. So the V&A jumped in and did Bury and the Tate did Matisse. And now there's an increasing slate of event cinema coming from all the place. But interestingly that's good, but it's also more competitive and we have to see how we fit in that landscape in terms of whether we think it's a good thing to do time. Plymning [Tim] who came in and instigated Pompeii and drove it through, commissioned a survey which I'm really glad he did. We got 900 respondents and it told us a lot about the live cinema broadcast, so there was a sort of skew of the audience, sort of middle aged female, southern. Because it was Pompeii I could

see for instance the conversation Bethany Hughes and Rachael de Thame in the Painted Garden would go down very well with that sort of listener. The big general appeal obviously, family appeal because there were secondary school kids learning Latin and the Key Stage 2 one directed at the kids was great, I mean I'll go onto that in a minute. In terms of the big 90 minuter and that was what we got the survey from not, from Picture House [cinemas] who are almost a converted audience, but from a wider. And that was one of the things we did, we took the risk ourselves and we went out to the multiplex cinemas as well and they gave us 900 respondents who overwhelmingly liked it, because they felt that they were getting close to the experts, they were hearing from the people who lived with these objects and understood them. And the second most important thing was being able to see the objects and they looked amazing close up on a 40-foot screen. Quite low below was the documentary exploring volcano bit, which was interesting although viewers still wanted that story as well. So there was an overarching narrative that was nice and simple, and there was a headline in one of the newspapers like British Museum does disaster movie. You know this is true, this is what draws people - they were people like us but then suddenly their lives are completely taken away. But before that they'd produced very beautiful things and they lived rather like us, and they are like us in many ways but different. And there's that wonderful attraction, and again some people like some presenters, some people don't. There's a whole page on how Bethany Hughes and Mary Beard were fantastic and brilliant, talking about sex and penises. And another page how Bethany Hughes and Mary Beard were like giggling schoolgirls. So it was a real lesson in how differently people can view things. It was really interesting and overwhelmingly over 90% of people want more of the same thing, and this the UK audience of course and there's a whole international audience who can't get here at all, and they find it wonderful that they can visit the exhibition. So they would probably have another set of things to say but obviously that's a



future task because the Russians will say something different from the French who will say something different from the Americans. Pompeii was very strong in Australia and France.

**You did broadcast internationally that way?**

Yes. So we went to about 1000 cinemas world-wide, we just got the bronze prize at the Event Cinema Awards for getting over 100000 audience. There wasn't a silver prize, no body got under 250000, that was the next one and then Doctor Who got the 500000 plus.

**This is like the Platinum Records this kind of system.**

And then we got the prize for innovation and programming excellence. So you know innovation and creativity high production skills so I was very happy about that, and then Vikings followed that and we did exactly the same model, except we didn't do the kids one live because they don't really care.

**So was there a kids presentation?**

Yes, Viking Adventures.

**But not live?**

Not live, that was scheduled for later on. It made it just work logically better for us and was cheaper. So instead of keeping an outside broadcast truck, they're fantastically expensive for 2 days, also we had to promise not to film in the exhibition, because we were losing money by closing the exhibition to film all day. So there were various considerations, different tweaks, we made for Vikings, but basically it was the same, multi camera director, same idea that we would have presenters who actually had a strong connection to the subject. So Michael Wood

is a Viking expert, even our curator thinks he's great, and then obviously featuring curators and people who really know what they are talking about, and sticking pretty closely to the exhibition. Some would argue that that we could of stuck more closely to the exhibition, some people loved the live outside, we had ship building on the front lawn things like that. While I'm thinking about where we can go forward and what audiences we are reaching and whether or not they will be viable financially. The other question is how editorially, how you tell a story. It's not a television documentary and its not a live entertainment show, it is a talking exhibition. But how do you make that not too dull? You need to give some sense of event, why people are going to the cinema. Will they come because they like the sense of occasion? Will they come with their friends? Its an opportunity to sit and concentrate without any distractions, its a sense of event where live seems to be quite important. They like the live element, so they feel they are sitting and sharing the experience that you might have had when television was live in the 70s that you don't have anymore. But I think as the population ages there are people who don't feel that television is treating them as intelligent grown ups enough and they want to really to be steeped in something. And I think that's the appeal of the expert as well, and not being mediated by television presenters all the time, even though Michael Wood is a television presenter but somehow we positioned him differently within the museum. But it isn't all older people, it is people who are digital savvy. So with Pompeii the twitter sphere went completely mad, and then with Vikings it was also very busy. I think our digital lead up, web lead up was stronger on Pompeii of course its easier to do a countdown, so that's where we are at the moment and we're thinking more about partnerships, thinking about how we can make YouTube more successful. I don't know which areas you're interested in.

**Yeah so I'm looking at all forms of media really, so its kind of about why**

**museums are doing this and how and who for, and so on the actual media is kind of interesting, its the kind of act of making it I'm interested in.**

I think something I've had to do as a broadcasting person in a museum, which is a strange thing to start with really takes time to help people see the point of what they are doing, especially curators, because some of them never want to be on anything recorded or have a camera pointed at them, others love it. But there is quite a lot of messages around there to help, and also we have to be careful about how many demands we place on our curators times, because they have research work to do and they have to care for collections and all that. But anyway, thinking back to audiences, thinking as somebody in charge of broadcasting, we're always asking ourselves why are we doing it, why I'm producer if you like. And of course it's about audiences, but which audiences and also who are we trying to reach. And there's who we reach here and who we reach outside, and of course there's who we reach in Bloomsbury and who we reach in the UK, and then there's who we reach around the world. And digital has made it possible to give expression to Neil Macgregor's vision, museum of the world for the world, and reach the world in a way we never could reach before. And I'm interested in different audiences, and there's only been me and an assistant so it's been like living in a tiny cottage in the industry. It's been big things then bringing in teams and freelancers so for instance I've just commissioned several videos about the Ming exhibition on different objects with the curators. Firstly there was a tiny budget, and secondly I decided it was a Chinese producer who came to me and I've worked with them before, and decided to allow him to decide what kind of video it should be and put it up in China. The Chinese websites, because they are different, so that was another experiment in terms of getting an audience. So he did a very straight version. He was concerned how the Chinese people saw our Chinese collection, and how we'd quite like to try other objects. But they've had 2010 views in China, which I think is good. Obviously there's a lot of people in China, but they

put it up on the Arts and Cultural website. But I like that because we have increasing Chinese audience coming here, which means we can appeal to them, give them some understanding before they come and draw them in, so there's that. There's the sort of audience we reach can reach via the Internet, and now of course the periphery means of communicating, you know only too well YouTube, Tumblr and Instagram. YouTube seems to just be winning and it seems to be the platform everyone wants to sit on, and so that's what we're going to fix our strengths on. At the moment there's also Sound Cloud and we should be on iTunes, and there's another thing but that thinking about reaching everybody, so for children I think we could do more for children. Again it's better to go into a partnership for that, so we're talking to a major broadcaster at the moment thinking about what a multifaceted partnership, which we could do which would give us a very big audience reach. And there are different audiences, slightly old fashioned, we had a debate recently about digital museums of the future, it's an overarching thing in the future, how do we go into the 21st century. The second debate was about digital and it was very interesting, a lot of members there and one person on the panel were very attached to the physical space, the physical objects, standing in front of the physical objects, which I really believe in. So I suppose most of my life I've been spending time trying to get up close to an object in the hope that they will then go and have a proper relationship with it in the flesh, so you want to draw people in, tell people these things are there, and in some cases you get closer to the object.

### **Oh, in the mediated form?**

The mediated form than you do in the gallery. But I would not negate the experience of being in the space, and also in that sense that Neil Macgregor has always said, you can physically walk around the world. So from Egypt to Greece so you can see, and then you walk to India and you can actually see a ascetic line,

and you can follow it through. There's a lot of connections you can make which I think is still an argument for a universal museum, but it doesn't mean to say we can't enhance that experience or do our best as a substitute if people can't get here. Again it moves people. I remember an Indian shopkeeper writing in about History of the World and saying 'all the children of India should hear this series, my father brought me up on short wave radio, now I can listen to it on the internet, please BBC let all the children of India hear this'. So that's very touching, but then also with Pompeii and Vikings I got a couple of emails saying 'I just took my 95 year old father to the cinema and it was just down the road, and he loved it, and he wouldn't have made it down here'. They were in Scotland or somewhere, and that ideal demographic. There's that element by actually, when it's the school level it's 2.50 a head or something, which for me is a school outing is not bad. And also we live in a world and we're going to do it as well, we're now chopping up Vikings for teacher's resources. But we live in a world where children are taught very piecemeal, and digital and narrative tends to get lost. A class of children sitting down for full hour and listening and watching something that is actually teaching them something as well, I find very reassuring and we're now doing teaching history in 100 objects which is funded by the government, and it's for teachers to give them resources to teach children. And I hope there will be some technology in there, because my children were taught completely randomly history at school, one minute they'd be doing the history of St Lucia or something, then the next minute they'd be doing the Tudors then Hitler.

### **Is it the same 100 objects?**

No.

### **They are a new set?**

No, in fact we've extended it. I think 40 objects from the British museum and the other 40 are from the UK which is nice.

**Ok, so it's a gathering.**

Bit more of a spread.

**And you were saying that you were a cottage industry, so how do you go about doing those negotiations and kind of recruiting your teams together to get a project done?**

Yes well this all about to change of course, most of it I've just done myself with an assistant, and we've just had to get on with it. And it's been incredibly busy in terms of the cinema broadcast. There was a proper budget business case and I acted like a producer, in fact with a bit of the History of the World we did because we had to draw people on secondment. And there were a couple of people put on contracts, but on the whole its mostly been the events cinema productions and that was a team, so I brought in and interviewed and took by recommendation hired. There's a whole mess of things that you had to do. We did a tender process for the international distributor, we became our own distributor using a consultant, so that was quite a lot of work. We did our own marketing, so we brought a marketing assistant in, and then there was a core team of producer director for the children's one. Multi camera, producer, director executive producer for the grown up one, who then also oversaw the children's one. So John Rooney who was with us for almost a year doing both, and then a head of production who managed all the logistics and the budget and the finance, paying people contracts etc., and an assistant producer who would run around helping and would help research scripts. Four freelance people who were taken on for a considerable length of time, myself and my assistant pulled into that too, and beyond that the crew, production, technical

people with outside broadcasters. You can imagine a huge truck, there's a satellite truck, there's another truck with cables, there's cameras all plugged in and satellite broadcasts. Its incredibly tech heavy and of course that brings its own team, that's huge.

### **So they are brought in for that?**

Yeah, so the head of engineering, I think Steve came in very early, planning with the director about what was needed, and then we had a certain number of dates pre-recorded. So he provided multi cameras for that so we shot it as live but was pre-recorded so we could edit some. And then we had the live day that was a massive rig, with cameras and lighting and that sort of thing, which is a whole other ball game where you really need people who know what they are talking about and you are terrified, because you are transmitting to 400 cinemas, and you don't want them to go wrong.

### **And bringing colleges onside, what sort of process is that?**

Well yes, inevitably we call on other departments, and that's tough and again its a very sensitive delicate process, the curator for starters is the first one to get totally loaded down because they're already doing a major exhibition, they're writing the catalogue, they're writing the labels, they're having to deal with people about press, marketing, images and all that. So it was tough on both the curators that I dealt with. I think both of them found it really grueling. I think they are both happy in the end that it was done, and had very good responses from it, but it was very very tiring. And that's another thing I'm looking at, how to support the curator.

Its difficult because they are the ones who have done all the work and have all the knowledge, but its how to make that easier and I think again, less live probably and more pre-recorded, so you can do things earlier and not have them all happening

at the same time, maximum pressure. The other thing is not to do just exhibition, but have things from the permanent collections. You know, you can get the organization at the moment when people aren't frantically busy or some other part of the museum that isn't doing an exhibition at that point, and then just talking to people to asking for help, we needed someone from learning for schools to check that the schools content is okay, and to make sure we are aligned with the national curriculum. Marketing obviously, but we made a contribution to marketing, even then it's a lot of time, a lot of people across the museums, security people, visitor ops people. They had to kind of cope a lot with people being interested, but also when we were actually filming it obviously disrupts. When you're bringing people in planning for that, so there's a great deal of impact and you do have to think carefully if its worth that kind of impact. And I think if it does reach the kind of people Vikings and Pompeii have done, and it probably is worth doing, but the organization has to be up to it and I know it is tricky and I would really really would advise any organization contemplating doing it to think very carefully, and to ask lots of questions, and to consult with people like me. And you know I've got a lot of broadcast experience and I'm slightly unusual in that there aren't many people like me who've worked in both sectors, broadcasting and public institutions, and I think you really need people like that, I'm not blowing my own trumpet, just trying to describe what the situation is, but you have to have at least one person embedded in the institution who understands what it takes to make a broadcast, because people do and its ridiculously time consuming, labor intensive, people heavy and all that, so you have to go in knowing that.

**And how did you control the project in terms of project management and logistics and things? So you said you hired in a manager for that?**



Yes. So there was head of production, they were very very useful in terms of keeping on top of schedules and presenters and scheduling when they were coming in for rehearsals and scheduling when they were actually doing it. They had to help me, I mean I was negotiating contracts, and I was working very closely with the curator with the scripts, because again I understand what the curator is trying to do, but I also understand what we're trying to do. So I can do a lot of mediation, that's quite heavy on time so I was executive producer for the British Museum I suppose. John was executive producer for the production, so John would deal with mostly all the technical thoughts where he was going to put cameras, and he would do a rough running schedule which we would work to and then I would flesh up the script. So it was that sort of process, the head of production would come later but again the budget had to be there and they had to report to project board.

**Yeah Matthew was telling me about the project board, so is that the kind of governance structure?**

Yes it is. So the project board is the key place you go to the moment you've got a large budget you need to manage, and you need to report. Its obviously a way of checking your on course and you have to set up warning signals or something if you're going off track. So that's a regular reporting process, its called a gateway process, so you start at 0 and end up with exit or something, you exit the gateway, I think you are cleared, set off back into your world. So I was in charge of the budget, I was in charge of reporting to the project with Vikings. Anyway Tim was doing it on Pompeii, I was looking at the content, getting the editorial right, working very closely with John the other executive producer and very closely with the head of production, that was the team that really drove it through and kept it on course.

**So did you ever find that you had to change direction in response to any**

### **outside stimulus or even internal stimulus?**

Budgetary all the time. I mean I wanted to go and film in Italy for instance, so there was a time and money issue on both of those. So I wanted to go and film in Pompeii and Herculaneum. We had some library footage of them, but I wanted to do our own filming, and it would of been nice to get interviews with Italian directors of Pompeii and Herculaneum in Naples, and we just couldn't afford it, it was so running to get there. Paul the curator was very overloaded, and also it would have tipped the budget over so, that was one very clear instance in what we would have liked to have done. Vikings again a lot of negotiation about whether or not we could afford to get a section of ship built. We wanted that for the drama, and we worked with the National Maritime Museum, so there was a budget for that. That was pretty much paid for by us doing a deal with the Viking River Cruises, who wanted us to do a little ad for them. So they financed putting a Viking boat up and it ended up on Buzz feed and things. We set it off down the Thames and passed the Houses of Parliament, and in fact it got into the newspapers and everything, so it was a little marketing ploy. But actually it was paid for by Viking River Cruises who wanted the fun of that, so again there's a lot of creative accounting in a way, but its being a producer you see what you can afford, you have to cut things off, but every now and again you can do something a little bit creative to get more money in.

### **So how do you capture the legacy of the projects to go forward to the next ones? What is the process for that?**

Yes well there's feedback, I mean I ask for feedback, and we do a wash up as I call it. There's obviously the productions themselves, and again I'm going round talking to the exhibitors - okay what worked? What didn't work? What can we do better? There are things like ticket pricing, are we pitching it at the right level? In fact I had a session with an exhibitor the other day, one of the big multiplexes. They said,

look if I'm going to Glyndebourne to see Vivaldi, I'm not an opera buff, but I just thought, oh it would be so nice. It was the end of the summer you know, and I rang up and somebody said 'oh returns are really cheap'. Well the return was £120, so I thought well no I can't do that. So I went to the Gates cinema in Notting Hill, which is just down the road from me and for £20, not only for Vivaldi, but with very high quality sound, but also had extra interviews with the performers, director glass of wine, sat with a friend who would of been another £120. To me that was a fantastic bargain and I was just trying to say to the exhibitor there's less of a differential in terms of exhibitions. My feeling is if I dropped my prices a bit, it would get many more people in, but we can't control the ticket prices. So that's interesting, so all that stuff is going on, how much marketing can we do, can we help them? So much of selling these subjects is about the individual cinema manager believing in the events cinema, its also about billing it properly because its a whole other genre, so the feature films are automatically put through the system, but I think cinemas have become quite lazy because their use to the feature film company spending almost as much or more.

### **Oh, on the marketing?**

On the marketing than they do on the budget. We've got this with Fox they just paid for all the signs, they are doing the Christmas lights in Regent Street. How much did that cost them? So we can't really compete on that score, but we do try to give them the materials. We've got posters, we've got you know different size posters, different images. You know its quite expensive to get the posters out to them, give them copy, give them teaching resources we can put on the web, all that sort of stuff, it takes a lot of thought but it really helps draw attention to these things.

### **And is there a spilt of box office like a profit? Or is that something you are**

### **subsidizing?**

No in the end, and I think its interesting, there's the first time showing, then there's the encores, then there's the national showing, then there's a sort of after life of sales and DVDs, TV rights. In the end I think Pompeii and Vikings were just about washed their face, and so that's another question - do we want them to just wash their face? Are they justifying their existence in terms of our audiences and our reach? And what messages are we are giving? Or do we also want to make some money to support ourselves? Inevitability, because we're getting cuts every year, pretty much in real terms so that's something I'm wrestling with as well, but we did a lot of it, got lost of them, we get a spilt 50 50.

[SECTION REMOVED AT REQUEST OF INTERVIEWEE]

### **And in terms of the media produced, coming back into the gallery, being shown in there as part of the exhibition, what sort of happens in that regard?**

Well at the moment that isn't working quite so well. I mean it tends to be a separate process, so the head of exhibitions likes to think about AV in terms of the exhibition. I mean once she's signed them off and they've produced it their quite generous with us in terms of material, we prefer to have that conversation early so we see it together, but also I think part of her impulse is that she thinks the exhibition is special so when you go into the exhibition it has its own feel, and I think you do require a different approach when your in the space. But obviously there are economies, we can share music or archive library footage or whatever we do, the deals up front, a lot of comes down to very boring stuff.

### **The practical data?**

Copyright, licensing, getting agreements up front and all that sort of thing. A couple of cameras, that's the other thing I didn't say is that you know when I got here there was this amazing moment where it's possible in a way it hadn't been before, they depended on people like me coming in with full camera crews, and actually I started on 16mil film. And so suddenly when I got to the museum I could buy a camera, tripod, some lights and some sound and a Mac for £5000 or something, and then get going and producing our own stuff. And that was wonderful. And increasingly anyway freelancers I had hired to make sure videos had their own kit anyway, so you can travel really light and do things fast and cheap and of course that's increasingly the case, and I'm about to have a video producer who will on the ground working all the time in house producing stuff, topical stuff, slightly longer stuff.

**And you feel that's a result of that lowering of the barriers of entry?**

Yes I mean it's the only way any of these institutions could afford it to do it, otherwise and I'm sure you're a lot cheaper than you would of been ten years ago producing stuff.

**I guess there's the over arching question of why do you think museums produce media?**

I mean not many do. Well increasingly they do, but a lot of it's pushing the boundaries for them to do it, and that's why presumably more often it will be driven to which is more expensive hiring their own freelancers. So they depend on their external, I mean I would love it if the museum could help other museums think about how to do things, but there are initiatives like Space, you know the Arts Council Space and Rights have just had 1.8 million pounds to help people like us or smaller museums and galleries and performance places find their way onto the internet and audiences, which is fantastic. So I'm sorry that hasn't really

answered your question, but I think there should be an ambition on museums part where they can learn to communicate digitally and through various multi platform media, because audiences increasingly expect that. Certainly here part of our job is communicating knowledge and understanding, and that's increasingly digital as by which the means by which people understand, and also it is this connected world we're in, so its a way of helping people get access to knowledge and to seeing things sometimes in a way in which they would of never seen them before. And that's very exciting and I'm thinking increasingly curators and museum directors understand this as well.

**Fabulous, thank you very much, it's been wonderful.**

**Interview:**  
**Helen Mears,**  
**Royal Pavilion & Museums, Brighton & Hove**

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**So I thought today if we kind of talked about the World Stories Young Voices project and ultimately gallery and media products etc. So if we just concentrate on that and we might pick up on some of the other things like books and things that we talked about before. But for today keep on the main plan so I'm just going to try and do a piece about that as a case study.**

**So basically where did the idea for it come from?**

So I think it mentions it in the evaluation report which you have a copy of, that some years ago - wish I could remember the year. They did a piece of evaluation SAM, Sussex Marketing and Lucid did a piece of evaluation about visitor non-user perceptions of the museums. And it was called something like 'Upside down and inside out' - I could send it to you if you like. And I don't know if it is in the report about they worked with groups of non-users, which included groups of young people. And I think I was working at the V & A part time or on maternity leave or something. They took these groups of non-users around the museum so the curators could be with them and get their responses. And they did some work off site and then they brought the groups to the museum. They kind of properly established focus groups and the group of young people, I remember it was somebody either Sarah or Harriet were with the group of young people and they said they were totally bewildered by what was in the James Green gallery of

World Art downstairs, and they couldn't see why this material was in Brighton and what, if any connection there was to them. It made no sense whatsoever, they were completely bewildered - that was the word given to me about it although I don't know how clearly this comes across in the report and it was just told to me. And at that point Harriet my colleague talked about well if you were to do the gallery again I don't know how much you remember, but it was a very aestheticized, gallery objects were kind of spot lit there was very little interpretation, no AV, no interactivity, nothing tactile. So we started to think about if we were to do the gallery again, if we set out are target audience was young people, what might it look like, how might it look and that was I'm terrible at dates. And around that time they announced the Stories of the World Initiative which was a London committee for Olympics and Paralympic games, and what was an MLA initiative as part of the Cultural Olympiad which had been part of London's Olympic bid - that they were going to bring lots of culture and engage young people with the Olympics and offer cultural opportunities. So it felt like a perfect fit to us because it was all about a welcoming to the world working with young people as co producers, co curators. It felt like a perfect fit so we politically maneuvered ourselves throughout any competition to go for that strand. I think there were other interests in the South East who wanted to do and as often happens Brighton kind of stuck its heels in, and we were the best fit really. So we got to go forward whereas other parts of the country they had little consortiums with groups of museums, and we just did it ourselves, so yeah it came from that really and it was just given momentum by the whole Stories of the World stuff, business plans and bits of bureaucracy. But then we had to raise the money through the Renaissance scheme but there was an explicit assumption that if you had your project accepted by Stories of the World then Renaissance would be providing the money in your bids. Yeah slightly frustrating because we got the Olympic branding but there were really tight restrictions



about sponsorship, they gave no money per say but lots of bureaucracy. We knew internally that Janita our director would be putting forward a gallery development project as we were in flux, issues politics, fiancé I don't know, but I knew having the Olympic stamp on it, it would get it through politically, internally.

### **Right so the Olympics stamp helped both internally and externally with both renaissance and...**

With both directors locally, councilors as well, it would have helped Janita argue that investment of resources - and it helped us say that we were doing something for the Cultural Olympiad. But I think I'm right in saying we were the only one because various projects dropped out along the Stories of World bureaucracy decisions making, and because of the real restrictions around sponsorship stuff I think we were the only project that did a permanent gallery. I think everything else was community engagement projects and or temporary exhibitions, and think I thought that was quite significant that we could make quite a thing about legacy. And then of course we did get some Renaissance money in a further round second round of Renaissance funding, and we were told we had to make an offer for the regional museums. So we had pot of money in the region we could put a bid for so we worked with Southampton, Hastings, and Bexhill who were in the first round. I think there were like four museums in the first round and then we got money from somewhere else, Renaissance strategic commissioning to offer it again and we got 10 or 12 in the next round, so it was quite a lot of regional activity both in the long and short term.

### **So who was behind the project in terms of who was the driving the force behind it? Yourself?**

Me and Harriet I suppose, yeah and they brought in a project manager. From the

outset it was agreed that there would be an external project manager brought in which is fine.

**Was that Focus?**

So we had a technical project manager who was Focus consulting, and then we had an internal project manager post, that was Laura Williams. So she was brought in from the outside and with a year and a half of the project to go before the gallery opened, or a year to go she moved into our development team.

**Yeah I thought she was staff.**

Yeah moved into development team that I took on. I'd been lead curator but then I had to take on project manager responsibilities for that last year or so.

**So in terms of the media choices for the project so how did the ideas come up for that? How did you think about it?**

The gallery now? Interactive?

**Well this is interesting because there is a sense of what do you consider to be media in the project.**

Well we had to put collections stuff from the World Art collection had to go into the gallery, that was an assumption throughout, and there was even a pressure. I remember at some point Janita saying 'well how many objects have come out? And how many objects are going in?' There was a sense of assumption that there should be more objects going in, whereas we did a lot of baseline evaluation work. So the SAM, Lucid were part of that. I think maybe we got Whitehawk youth group in to do some evaluation. We also did some face-to-face interviews with gallery visitors, and what struck me in terms of desires for a new gallery, responses to the gallery as it was, desires for a new gallery. Wherever they were young people from

Whitehawk art group who had never been to the museum, wherever they were traditional museum visitors or wherever they were young people from the Lucid report, they were pretty much the same. There were lots of similarities, so that was things like they wanted to see old objects and new objects, they wanted much less behind glass which is really difficult with ethnography. They wanted it to feel lighter, brighter and more contemporary and they wanted it to be lots of hands on, brains on stuff. And they also thought the previous gallery was kind of thematic, and in some areas brought objects together by theme, belief or makers highlights - so you'd see a Nigerian mask, Chinese robe. What they were clearly asking for was cultural specificity, so they wanted to see objects quite clearly situated in a place. And pretty much the gallery just evolved from that from our baseline evaluation, and then we had a painful process of again I think I was on leave or something, a process, I must of been on maternity leave, of drawing up narratives for the galleries stories for the World Stories gallery, and there were like billions of them. People were working on stories, I think I had a couple and Harriet had some and other members of the team had some, and we had an all day meeting up at Preston Manor, and we had a shortlisting template that Laura who was project manager then had drawn up, and we had to shortlist out project ideas on certain criteria. We were looking for some kind of geographical spread, some stories that already has some resources and partnerships in place, others could be completely new. So we were looking at do - we need partnerships, what kind of collections did we have around this story, what partnerships, what opportunities are there and what stories based on what we knew would appeal to young people. The difficulty being that a lot of young people wanted stories about drugs, sex and guns. We didn't really have much of that in the collection, maybe we should have done. There was always tension that we wanted to do stories around issues but that had to drop away because when you have a 50-word label to describe a funeral mask from New Ireland, people don't even know

where New Ireland is. Why would they? It doesn't give you much scope to raise issues, so that process determined the stories that went into the gallery and then those were worked up by a curator working with an engagement lead on each story.

**In terms of choices about Audio Visual, Website, QR codes, published things and brochures how did those things come into the mix?**

I was quite prepared to drop labels in the gallery altogether, but the young people - the Whitehawk group I remember, they were very intelligent. I know it sounds terribly patronizing given that they were just brought into the gallery and hadn't made an independent visit to the gallery before really said thoughtful stuff about the galleries. They really wanted to keep labels, they wanted to see them more branded nicer looking, not too much text and they also wanted more images. Something else that came up, they wanted more images, so we realized we had to keep labels, especially when what you are describing is so alien to a lot of people, what the kind of cultural context is. So we wanted to keep labels, we had to be strict on word count that - was a challenge, but also compared to the gallery before we put lot of access on images to evoke context, so the choice of the big image for each story was a challenging one, took up a lot of discussions. And then the QR codes - we have no infrastructure really or very limited infrastructure to support AV as you know. We have two lovely technicians that look after two of our sites and dealing with maintenance stuff, not just AV in the galleries, so couldn't have some ground breaking interactive, this, that and the other, we knew we couldn't manage it so we made a self conscious decision to keep our interactive low tech and move the burden of maintaining the hardware to our visitors rather than to us. So QR codes felt like a really nice way of us not having to maintain equipment which we were rubbish at, and I also remember reading somewhere, I mean Centre Screen did a whole piece of research around us, based on the use of QR codes - I can give you

the report, its quite useful. And somebody just said they were more comfortable using their own piece of hardware then they ever would the museums, and I know there are people who still don't have access to mobile phones - hell even my mums got one. Although I think there are a lot of people who do, and also we had a computer kiosk in the gallery to satisfy that. So QR codes felt like a nice way that we wouldn't have responsibility for the hardware and given the limitations on text, being able to bring young voices which had otherwise seemed a bit lost in the gallery, into the gallery. And I like the idea of a visitor listening to a young person. I love the Iranian Pen Box where you can hear her transcribe the Farsi poetry and I love that she says it in English and then says it in Farsi and I love to hear it. Unfortunately it never seemed to work as smoothly as we had hoped, that was really QR codes. And then the computer kiosk, I'm not entirely satisfied with because we saw it as just another platform for QR content for people who didn't have mobile phones. But all the time I see visitors come in, especially young people sit down at that kiosk with an air of expectation, expecting to be able to do something and actually its a really passive slightly stodgy experience I think and I'd love to have a game or something more interactive on there as I get a sense of that's what people are expecting. Of course I should also say as you know we set up an Access Advisory Group who through the last year, well the last year, we were working with Redman the designers, Focus and our Access Advisory Group and we met them and our Museum Collective youth adviser group at particular points over that year to sign off each stage of the design work that was a really good process. I learn't loads, felt really positive. You know it started off with them feeling quite cranky and cynical and because we were working on a new gallery, effectively a piece of blank paper we could just implement most of their suggestions. So after awhile we got confidence and happy working together so they had a really profound impact on the gallery - the Access Advisory Group, the colors, the graphics, they tested the QR codes for

us, very painful experience with Diane with no sight, I had to see if she could align her phone with the QR code, not obviously and of course they helped lead us to the RNIB Pen Friends which we use to provide audio description and through them we have a couple of hand books with transcriptions in large print and stuff.

### **Was the Access Group in place before the project?**

No. It was set up specifically for the project, but it's continued on beyond the project. The earliest stage of the project I was working closely with Rachel Lackey who was our community engagement officer and we were sharing an office. She's now at the Horniman and she was really inspiring to work with, and her kind of commitment to community engagement and her approach to use to set up the Access Advisory Group. But when I said it was my project she had a lot of influence on it, how it was delivered, and then we also brought in with partnership with Brighton and Hove City Council Youth Services or the Youth Arts team, a seconded youth worker, a day a week - Hazel and then it went up to two days, then three days.

### **What's her surname?**

Welch. Hazel Welch. So that was quite interesting, we'd never done that before - seconded a youth worker and then in one of the Renaissance projects a post came around, so she's now on our staff poached her and as somebody who is a specialist in youth engagement who was really good to work with as well.

### **Did anybody resist the project in terms of hierarchy or outside? Did you find any opposition as you were going along?**

No no, I don't think so. I think the Olympic thing helped that there was nobody saying why are we spending all this money? Because it was the Olympics so that was

just great and youth engagement, they love all that kind of thing and you couldn't say no to that without sounding like an absolute killjoy.

**In terms of the print stuff that you did, what choices did you make there?**

You mean like graphics?

**No. I mean in terms of various flyers, brochures, kind of reports, when you thought about which ones of those would you use - how did this come to pass?**

So all the graphics inside the galley were done by Redman the graphic designers and then our designer Derek did all the marketing posters, things to go on the feather flags whatever they are called. And it was interesting, he had to bring his designer ideas to the Museum Collective Youth Advisory Group which was quite a difficult process for him, he's not done that before and I was there at the meeting and they reviewed his artwork and fed back on it.

**They are called Museum Collective?**

Yeah. And the designer was Derek Lee, so they the Museum Collective were quite clear what design work, they liked so I think he was a bit terrified of the process.

**Did he say why?**

Yeah I think he found it more positive than he expected. I have to say I didn't have much interest in the print, there were little flyer things, I didn't much like it myself. I had enough to do with the gallery. There were tiny like things which just had the fold out stuff, I probably have some, the invite was quite nice for the opening, the posters looked a bit local authority so I didn't really get involved with that and then

there was another leaflet flagging the regional projects which Derek designed and of course Sonia Raspberry led the regional stuff for us and then there were two reports that came out sometime after it. One was my more wordy evaluative report. We commissioned Nicky Boyd to do three or four bits of evaluation around the gallery which was brilliant and then I tried to do a report pulling together the findings of that, which I felt was really important to me to have that opportunity. I think Sarah my line manger - Sarah Posey, that was the only thing she was resistant about. She couldn't see the value of a printed evaluation report - why not just put it online? Because we did have a bad habit of printing booklets which would just sit in boxes, but to me it felt like a really important way of consolidating what we had done and setting up our stall in terms of moving forward so we can say we found this, so in the next funding bid we could use it. I sent it out to every museum, everyone I thought who would be interested, which has been good because I thought things like the invites to the oral history thing has come about I probably sent her a copy. I was very keen to get it out there and some nice things have come about because of that, people have been in touch and I have made contacts. And the museum wanted to do a more cheery advocacy booklet, so they would take some of the stuff from the evaluation report, but its mostly images and some nice quotes that they could send to funders and stuff. So mine was supposed to be the more frank, the sector speaking to itself a bit more and the report was great, we had to do a second print run.

**So you've already given me some of this, but how did you recruit collaborators to the project? There's the kind of had the secondment from the council, but also the formal commissions like Redman, so how did you assemble your team?**

There were the usual procurement processes for Redman, Focus as well.



### **So who did you get?**

Focus were the technical project managers and then the Hub did the strip out, fit out and they sub contracted the mechanics and the hardware. The AV Cisco, they managed that contract and then there were yourselves - Surface Impression that kind of AV development. Plowden and Smith did mount making - I think that was all the contracts. And then staffing there was Harriet and I the project manager, then I became the project manager and there was a whole collection of project curators, a number of who were redeployed into project posts in the gallery. So people who had been in other jobs whose jobs had come to an end, that was quite tricky for everyone I think and as I was line managing that was quite hard to manage that process. With absolutely no disrespect to those post holders I think they felt the same so there was quite a lot of organizational shuffling around in the team. That's the curator side. Then with the engagement side we had Hazel who was seconded and later employed and Ellie Newland, she used to have a post, I think we used her on a freelance basis as an engagement person and there was Rachel Lackey our engagement officer, until she left and then we had assistant curator as well - Lucy and a lot of the young people we worked with which Hazel knew. We decided to work with groups already established, so in her youth work she'd worked with a number of the groups, the only exception being a football group which we established from scratch. But on the whole we preferred to work with established groups and the young Iranians as well they kind of weren't necessary already a community.

### **And how did you recruit them?**

So they made contact with the general Iranian community in Brighton and through them got to know Iranian young people, some of whom were at college in London

I think weren't necessary in Brighton and then the Burma young people that I made contact with.

**And you made contact with them through your established connections?**

Yeah. So I went out to Burma to in 2011 and went to a festival and interviewed young people there with the help of a student who was helping me. And then made contact with people who lived in the UK community through our established contacts of course, we also had an Interactive company -Sirsus they were the only tricky people.

**They were the physical interactive?**

Yeah.

**What did they do? Which bits of it?**

Well you might well ask, they made a mask to try on, they organized commissioning reproductions of Burma Kitchn clothes. They did the smells, yeah they were quite difficult to work with. I wouldn't work with them again.

**What did they bring?**

Just not communicating. No sense of a dialogue, it was just get what you get and damm you if you don't like it. It was very different to the other relationships we had.

**When you were pitching for the Cultural Olympiad Renaissance and stuff like that who wrote the proposals?**

Me with Sarah Posey my line manager - Head of Collections Interpretations and Learning. And there were certainly some meetings where we had to do like business plans, it was deadly for the local MLA. There were certainly some she had to go to present the proposal at, whether I was too junior or I wasn't around I'm not sure,

maybe I was too junior.

**So quite a process then?**

Yeah I remember at one point they had really early on in Stories of the World, they had this governing board or something and people like Mark Taylor, there some quite big people. And I think Sarah had to take our project proposal or our business plan and defend it, and she said they were being really defensive and its not like they were giving us money it was all a bit cheeky really. I think it was just because it was such a big deal with the Olympic branding, you had to get the license signed off and stuff.

**So were there any relationship managers or something like that at the funding bodies you had to deal with or even get contributed?**

I can't quite remember the early days. We went through two Renaissance rounds and certainly the round we were in when the gallery opened was Michael Cook who was lovely and supportive because he's got an interest in ethnographic collections. At Stories of the World I should say they had a post managing the Stories of World project Isabel Siddons. Think she might be at The National Archive now. She was the national coordinator. I suppose we had more contact with her than anyone and she was a trained archivist. She was amazing with the amount of contact she had with all the Stories of the World partners, because I guess we all had reports we had to put in occasionally. I can't really remember - I could look back at correspondence, but I had quite a lot of contact with her and I felt she was very engaged even though she was working with 14 other projects. She was very impressive, but then there was the horrible moment when the MLA got burnt on the bonfire of the quangos and poor Isabel was left standing. Got moved to the Arts Council, but I think it felt like quite quickly she was being shunted out and she moved possibly

before the project sure fruition. I'm not sure but she came and spoke at a recent group of museum ethnographers about engaging curators. She got some ACE money and talked about it, she was talking about how hard it was to get that work with the MLA because a lot of people were questioning the presumptions behind the Stories of the World ethnographic cultures - young people. What's all the evidence for that? Did anyone think though the methodology? She was saying the MLA weren't academic, they weren't interested in research, so its kind of interesting how it came from how the whole Stories of the World came from.

### **Who were the people questioning the ethnographers ?**

Curators. I think a lot of the other Stories of the World projects were led by engagement learning staff and I think there was a sense that curators were being sidelined in it. So it was young people working with collections with learning and engagement staff, whereas ours was a bit different as it was being lead by a collections person, although I've always had a foot in engagement as that is part of my role. Chantal Knowles who had particular issues with the Stories of the World methodology.

### **So she was challenging?**

Yes, because at the National Museum of Scotland, Edinburgh where she's based, she certainly felt quite uncomfortable with how the Stories of the World methodology had been used. It's funny there's always that tension: curators, educators, educators, curators and so for us at Brighton I felt we were trying to do a good job of keeping a balance on both. But then when we came to do a team evaluation at the end. At the debrief people felt it was horrible. I was the facilitator. I had to facilitate my own teams evaluation and people just wanted to let it go. So they did that and I had to sit there, but people felt that because I had been project manager, partly because of

other things as well, thought it had been curatorally driven process, that curators had more authority in our gallery than educators which actually having got an external project manager would have helped that tension because I then got put into that role and what that did mean I had line management of the collections staff. But there wasn't really the same support for the engagement staff, so it's just the tension, it's always the tension in museums.

**You mentioned Stories of the World methodology. Was there anything that came down from Stories of the World to you in terms of methodology?**

**How was that produced or received?**

There must of been toolkits. If you email me I'll have a rummage around to see what I can find. I've probably burnt it all, but there definitely was a sense of reports, that kind of stuff. But at our local level we were very much lead by what Hazel said. Because I had this idea that we would work with one group of young people over the overall gallery design and they'd be involved in every aspect. Hazel said you can't assume to have a group of young people, especially hard to get young people, engage for all that time. Better to work with them on specific projects and her feeling was very much and still is that its great to build an opportunity for young people to develop creative skills and have a creative experience. So that's what a lot of our youth engagement work became, about creating stuff linked to the generation of gallery content. So we used the Museum Collective who were less disadvantaged, more ambitious, motivated, articulate, young to be college goers to give an overall steer to the development of the gallery. So we worked with much harder to reach groups on gallery content but then used them as a steer. But there was a bit of tension in that I suppose sometimes that wanted quite different things.

**How did you mediate between that?**

Well there was an issue about the table football. So it was the football group who worked with us on the football project, created a film for the gallery, talked about exhibits and collected stuff. They were really keen to have a table football set in the gallery but the Museum Collective felt it looked kind of patronizing and tacky. Ultimately we went with the table football.

**How did that get decided? Who arbitrated? Or did you not arbitrate and did you just go right were having it?**

I can't remember specifically on that, I can go and ask Hazel, but there was also tension with our front of house staff about the interactive, and I had to go and negotiate with them and they didn't like the table football either, so somebody must of been quite keen on it. I think it was me and Hazel, I know the Museum Collective said it would look like a youth club.

**What kind of discussion did you have with front of house about the kind of formatting and content and media bits of the gallery?**

It's very difficult to get our front of house staff together and get a meaningful discussion because of shift patterns and the need to be on the floor. So I'm afraid I'm sure it's a group we could of done more with but what it came down to is - before the gallery opened taking people around, doing briefings, but I did particularly go to one of their meetings. They have morning meetings and I certainly went to a couple of those with a list of interactive and consulted them as to potential problems. And I think with the table football for example I negotiated and said they were quite worried about it. They thought there would be violence and it would be a bottleneck and stop visitor flow. So I said why don't we just get one and try it so I brought a cheap one and put it over the gallery one Christmas or something and it was fine.

**That's interesting actually.**

Nothing answers an argument like evidence I suppose.

**So when you were putting the project together how did you scope out the resources you need and try to predict what you would need?**

It was really difficult for me because I'd not worked on a gallery, but I'd consult people and people sent things like estimate this cost per square metre, somebody said somebody who'd recently done etc. Harriet and I went to all museums who had recently re-developed ethnographic galleries and we went to Amsterdam, Linden and we did lots of UK museums. We went to Glasgow, Manchester, Leeds. So we went and saw lots of other ethnographic galleries. So we did answer some questions about costs and AV material there. I remember at Glasgow they had some incredible game that they had developed with a big chunk of funding and that guy with a weird name, he said they would create an incredibly elaborate game and he went into an environment and he got all charged up and it was amazing. But he said if he did it again they would use people's mobile phones so I think that's what they came from the QR codes and told me how much it cost to do what they had done. There was a bit of that going around, the cost, and then we looked at the Egypt galleries we had recently done at the museum, looking at the cost of those and then trying to reconcile with people saying they'd done that development and this is how much they were paying and how much they spent.

**How about people's time and things like that? What did you do to guess that?**

I don't think we did. Now as part of our creative programming process we have to put in the hidden costs. At that point I don't think we did because of the staff time,

the face time.

**How did you come up with briefs for your suppliers?**

Laura Williams was still the project manager went through the procurement process, so she managed all of that. So I took over project managing after all the procurement had been done, but I guess focus helped as well. She first recruited Redman and Focus and they must have helped us put together the content for everyone else. I think that was part of Focus's role, I don't remember seeing anything like that.

**They helped put together the briefs?**

Yeah.

**The different tenders you got, what of kind of numbers were you getting for each kind of role?**

Not many.

**Did they vary quite a lot in terms of proposal?**

Well with Redman, we only interviewed two others gallery designers I think. And Redman were very established. We were actually quite a small fry for them but convinced them. They were quite interested in doing it for a portfolio project for the AV. Then there were yourselves. It was all quite small numbers and again for fitters, numbers weren't massive of course with AV there was that whole discussion. We were quite emphatic the Access Advisory Group wanted to use the company Remark to do all the captions and I think Centre Screen also bid. And there was also a strong interest from the museum with AV not that this necessarily made the cut, there was certainly an interest in using a Brighton company because it hadn't been



possible to give the other contracts to Brighton companies and of course there's a green administration. I've still got all the tenders so I can look through them for you.

**Did you find that once you got proposals in, like no matter what state, did you find your plans were changing in response to that or did you pretty much stay on?**

I think we stayed on plan. I think it was quite a shock when we first saw Redman's outline designs. You know you haven't quite imagined it and they had this idea of a kind of canopy, so the graphic went up the wall, so there were strips of narrative along the gallery but a graphic up the wall then a canopy and then a graphic down the other wall so you would get indications on all sides. I think we quite liked that but then with the canopy, obviously people were all like what about the smoke heads and the dance? So that had to go. So it was quite shocking to see their first designs but I can't remember why, but it's just when you have an idea in your head and then you actually see it and fundamentally we didn't shift from the outline design work they presented. A little bit of moving around, a little bit of fiddling stuff but also they were quite canny to present it in a certain way. A kind of - this is what we give you, and also it was a real time, we had a year from them being commissioned to the gallery opening so there was a real pressure to deliver so we didn't have much time to make decisions and it was amazing we did it really.

**So in terms of project managing it all, did you introduce any new systems or processes to help you manage it that you hadn't used before?**

I didn't have project management training which is I think quite characteristic of museums so it was really useful having Focus's schedules planned. Redman were very good at setting deadlines and they were quite fierce. So like over the graphics

and stuff, my god the pressure. If it looked like we might be a bit late on graphic content it was terrifying. I think the project team met once a month or once every fortnight and that was quite important to keep the communication going, most people were in one office, I was upstairs but the rest of the team were downstairs. Plenty of office politics at one point, I had to move downstairs.

**Did you instigate any kind of systems or anything like that in terms of checking off things - calendar control, anything like that?**

Not really. The big focus for me was the graphics that took forever and Redman issued a system of coding because that was a big focus for the gallery, sorting out case plans and graphics and the delivery of AV content. You were a bit more laid back on that, whereas Redman had this huge chart with all the graphic codes on and what stage they were.

**Define graphics in this case.**

So that was the major graphic images, the big graphic images, the introductory panel for each story of about 120 words, label strips and then sometimes there was an intermediary level called the graphic slope. So you had your main introduction to the story and then you the intermediately level when you had a bit more context and then you had labels specifically object by object. Graphics became such a big process because we had young people commentary going in to those. They were drafted - when we started off we had 7 stories. Every member of the project team was allocated a story, not necessary the one they were working on and we all had to do a main graphic, a main text panel of 150 words and we all did what we could do to draft one. And then we all had two meetings in the education pavilion and we stuck them all up. And the first one was awful because it means pulling to pieces someone's text, but when we met again and looked at it again the revised text, it

was much easier and it was quite a painful process, but it was useful seeing them as blocks and text. And then we went down to 120 and we kind of designed a style that was signed off by the Access Advisory Group.

### **Who was responsible for designing the style?**

Well that was surprising. It came from the Access Advisory Group. With each main graphic we took some examples to them to get their feedback and what they said they wanted were ones that started with a quote, something really active that grabbed you, some sort of structure to it and then ended with an active question. So they were quite emphatic. That was pretty much the template we followed, some kind of starting fact, some structure, then a what would you do? So we went through that very painful process for the main graphics and then after that I think we ran out of time, but I felt that having gone through that process I had a clear sense of the approach we were taking. So then people actually working on the stories wrote the text combining young peoples voices wherever they could. Sourced community voices then sent it to me and I edited it all which probably riled people. But other than that it was really stressful but I really enjoyed it. I suspect the project team members did find that quite difficult but I did really try and follow the process that had been established in discussions. But it's so hard for a label to try and incorporate a young persons commentary with the essential - this is from Iran, it was made there, it was made of wood and how much you can edit other peoples quotes, so I did edit because I wanted people to feel happy.

### **[Missing Question - audio glitch]**

Preparing text because that was a very big part of the process and I think at the end we all felt that actually it had been very curator ally driven and managed and owned. That's a big part of it but ultimately people gave us their voices, their commentary,

but ultimately I felt that its very difficult how you get round that in a permanent gallery with objects in cases with labels, but I think either you could get in an external editor or an external project manager because I had a lot of control over the gallery and I think that was probably quite problematic.

### **So you feel that might be problematic?**

I suppose so. Certainly in the community, people who came in felt really happy with the process and I can show you the reports. Nicky did an evaluation on participants experience and there were ups and downs but people felt really happy with the final gallery. I felt such a sense of ownership in fact our access group felt a sense of ownership I had a privileged role in offering it, I think we all agreed that we felt other people had been invited to contributed to a publication the museum had ordered and that I had a particular voice in.

### **The museum's voice and your voice - how do you think they related to each other?**

I guess I was the museums voice. I mean everybody on the project team had to generate content but I had to make it all look seamless, so I can see with the arctic objects, the small text, its defiantly a Harriet but I still think overall the tone of the voice was quite consistent.

### **Did you have any consciousness of the entity of the museum and how it says things?**

Yeah. Well I think we all thought much harder about gallery-by-gallery redevelopments. Ultimately you can get enough people in one gallery and I felt like we did a lot of research into interpretation, a lot of thinking about it and tested approaches with people and we were very thoughtful about it and that learning

sat within the gallery. Everything else remained the same, so we are talking about and I tried to get into the current Renaissance bid that's going on now that we do a holistic review of our interpretation and refresh, unfortunately the budget got cut but there's definably an awareness now that the learning from that gallery needs to be apparent throughout the museum. And I think it's a sectorial interest in privileging other people's voices and interpreting objects. I notice it when I go to other museums, there's a lot of other peoples voices coming through.

### **Did you at any point be able to change approach or reduce scope of the project to achieve deadlines?**

The decision not to have any AV stuff that was partly. There was a whole tension about the Arctic Elders, that was right up against the deadline and that nearly had to get cut. I think the big gap for me in the gallery is that we had a dialogue with local young people and where possible we had a dialogue with source communities. And a step we didn't have time to achieve was create dialogue between the young people and source communities, that's what we would of liked to do with the Arctic one. We had always wanted to set up conversations between the schools and indigenous Arctic communities - that was just beyond the time and with the football that would of worked quite well.

### **How was the project received?**

Nicky Boyd did a piece of evaluation with visitors. Unfortunately the time that she was going to do that someone set the gallery on fire, so she did some at the gallery opening and then some in July and the gallery was on fire in August so we really didn't feel it was complete. What I wish I had done some thorough baseline through tracking the gallery as it was and as it is now, because I feel very confident in saying more people are in the gallery. People are spending more time in the gallery I think

because it's more open, feels more interactive, more user friendly. You always knew young families would use it but I wish I had measured that before so I had that to check against, but the visitor evaluation hasn't been as thorough as the kind of baseline participant stuff.

### **In terms of sector response?**

Good. Because I sent out the report to all who I thought would have any kind of interest. So we got mentioned in a Tyne and Wear HLF online publication, a thinking resource case study, we got commended for Museums and Heritage award for best educational initiative which is interesting. We went for best new exhibition or new gallery and best educational initiative and we did better as an educational initiative. We did also create some resources for young people that are hidden in the tables and we kind of ran out of steam to do. We finished them and they were to pick up on some of the issues so there's a great one about drugs and alcohol use, there's one about community communications and they are aimed at youth groups and youths independently, but never got the infrastructure sorted. But I know Hazels looking into it at the moment and how they can use those.

### **Did you get any press coverage?**

Not much I don't think. Maybe only local press and Museums Journal did something and Museums Practice on youth panels or something, so yeah not loads really but I guess it was the year of lots of competition.

### **Any kind of stuff online like social media or anything like that?**

The web off the gallery is appalling. It was awful, it's probably still all up there, it's painful. We created a mini site, it was about the Access Advisory Group and each story. We did a bit of social media. We had a Facebook group, certainly we had one

member of the project team Laura Waters who was Curator of Collections Projects, she was very good and she would do like pictures of everything happening, and we trained up a couple of members of the Museum Collective to be press ambassadors. We went to the training for that, it was really good. Somebody from the councils press office came, she was great, trained them up and used them as well we had a press launch.

### **So legacy and lessons - what do you think the legacy of having done this project is?**

Well the whole evaluation process is really useful and the kind of project team, so Nicky did some work with the museum on impact - I think it was called Project Impact or Organizational Impact and she interviewed the immediate project team and the wider museum project team and then I did a kind of debrief with the immediate museum project team, as well the painful bit. So again a slightly painful process but a really useful one and it kind of gave clarity to what the challenges were, but they were particular about although we made so much progress on the road of working this way, we only got partially down the road and not as far as we would of liked. But partly the time constraints and the constraints of working on a permanent gallery that has to have objects in galleries with a ten year life span of the gallery, but there was a real interest about how we could take that way of working further because one story nearest the front door which was Amazon when we opened and is now about the journey to Meccha, the idea is that we hope to change it every year, kind of keep the gallery feeling fresh and so the second display, the Brighton to Meccha was very much formed by the learning from the gallery and took it further. So Ellie and Harriet spent a massive amount of time with that group community to make decisions on what went into the case, write labels, create film. They were so much more involved. They had an acquisitions budget and that project

was very expensive and quite stressful as well in terms of contact time needed and expenses. So in some ways the conference we are planning for November is a response to that, certainly because we also have a project debrief coming out of young authors with Harriet and Susan who is the community engagement officer now. What was the learning from the project and the learning was very much that this was a lot of work, can we really do that again? They were exhausted, they were drained. So for me that's been in my mind, so November's a chance to see how are people managing this, how are they making it viable. Other things that have come out from it for me have been that we now have an exhibition for 2016 'Fashion Cities Africa' and that will take forward some of the learning from World Stories and some of the stuff from interpretation. Perhaps we will have a bit more freedom as it's a temporary exhibition as well, but some of the stuff we learnt from interpretation using images and AV and working with an Access Advisory Group that will go into that exhibition. But also I had wanted on the gallery to work with Brighton and Hove Black History who we have an informal relationship with for years and I was trying to set up a research bursary, then I went off and had a baby and that kind of fell away a bit so I was still keen to work with them, so in the end we commissioned Brighton and Hove Black History to run our events program around the gallery launch and while not without its problems I'm very interested in that way of working so we set up a BME Heritage Network that I've commissioned Sarah lead chair. I think for me that's a way of modeling it differently rather than us leading all the engagement work, actually we use our resources to develop capacity within the community run heritage projects. So for me I think that's the model moving forward, we hold that relationship but provide tailored training and support to people to allow them to do it so the heritage network is very much a response for me to the gallery.



**Has the museum documented the production process or archived it? Or is there any formal kind of self-recording of this?**

Not really. I mean we did a lot more evaluation. I invested a lot more of our project money into evaluation which is typical partly because its just the best ammunition in getting what you want to have evidence, ideally written by someone else. So we spent 8k or something on evaluation, which for us is a lot of money. Maybe it was more than that but we've now started developing a project management methodology and templates to use internally, but we didn't have that at the time, so all there would be are our minutes with meeting with Focus, minutes from the team meetings I ran which you are very welcome to look at - don't know how interesting focus's ones were, just like five bullet points.

**Actually that's good in itself.**

But I suppose in some ways the report was a way of setting out - this is what we want to remember of this project. It would probably be interesting looking at the evaluation because again, I edited that report so I distilled what I wanted to distill - Nicky Boyds evaluation report and the team briefing into the final report where I knew we were setting ourselves up for any subsequent work we wanted to do.

**Interview:**  
**Kevin Bacon,**  
**Royal Pavilion & Museums, Brighton & Hove**

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**The first question is what's your role at Royal Pavilion and Museums  
Brighton and Hove?**

My job title is Digital Development Officer, which very broadly means I'm the person responsible for principally the front-end digital presence of the organization. So that includes the website which as you know is under redevelopment at the moment, but also broadly overseeing the social media activity and other special engagement projects like a couple of apps we've worked on and various other micro sites we've commissioned. To some extent the boundaries are changing over time because there's quite a lot of infrastructural stuff that I'm dealing with now that I never expected to, so for instance working with our existing digital asset management system that we are looking at replacing, which actually does have a front end element to it and also even to an extent actually chipping in on documentation practices, which is not my specialism, although I have worked on it in the past, but actually applying refinements to those processes so that we can get even more information online in a much more stable fashion. So to some extent I suppose reflects the shift in the organization too much more of a publishing model actually. And in fact logically if you move towards a culture of openness and if you are publishing more and more as part of that in a sense, my role of digital front end does start to expand rapidly. It seems like empire building but it's actually

responding to the needs and shifts in cultures, that's a very long answer of what I actually do.

**Was the post created as you took it up? Or had it existed before?**

Yeah it was a completely new post. It first came alive in April 2011, so I've been doing the job for a little over three years now. Prior to that, no one individual member of staff had responsibility for digital or gave any strategic direction. And the main reason for having this post was so we could get to grip with some of those things. And there was an aspiration that it would become much more central to our business model, so now for instance in our current forward plan which is like many at the moment working towards 2020, digital is a key part of our mission statement. It's quite centrally in there which it wasn't before, and to some extent the role I'm was created for that reason. Prior to 2011, yes digital was split classically between two departments. You'd usually see them split. On one hand was marketing who looked after the website, and were beginning to dabble in social media. On the other hand other aspects, particularly online collections sat very much with the collections team. And the whole process was very very disjointed and arguably not very strategic, perhaps worse than that, not very tactical necessarily. And one of my jobs is actually to balance those things, because I work quite closely with marketing now, but having been a curator obviously I have those links to the collections and understand the way of thinking.

**And actually on that point, what did you do before taking up the post?**

Quite a few different jobs. I've actually been working for the Royal Pavilion and Museums since 2003, so I've been there about 11 years now. Before taking on this job I was Curator of the Photographic Collection for about 3 years. I took that up in 2007. Prior to that my time was largely spent on working on documentation

projects, most of which was focused on the photographs and also working in the Brighton History Centre, which was a research facility in the museum that's now been incorporated into The Keep - the new record office site over in Falmer, where I'd been working for a few years before that. So the great advantage I had was working in lots of different areas of the organization from basically front of house to documentation, into delivering exhibitions. Even now I still find myself doing things people would call curatorial, just because there are areas of knowledge I know more about than other people. So at the moment because having worked on the Indian Hospital Gallery in the Pavilion, I know a lot about that story, and it being 2014 there's a lot of interest about it so I spend a lot of my time doing un-digital thing of giving talks about that particular area of history. But yeah since up until 2011 a lot of the work I was doing was always focused on the photographic collections in one form or another, and that's partly because there a very big collection - about a quarter of a million images. And we've really only scratched the surface of what's there. But that came about when I started working in the History Centre and people were asking for images of things, and I just said well why don't we scan some of these things? It just seemed odd that we had to bring a photographer in, create a negative. And then as we had a form of digitalization project we started late 2004, I became involved in that, it became much more structured digitalization rather than just creating a digital image, not having the infrastructure to merely record it anywhere.

**Could you give a few examples of the media production projects that you've worked on as a part of your new role?**

Lots of them, particularly because they've been funded through the Arts Council Major Partner Scheme, which lends itself to quite a few short term projects as much as some people might claim it ought not to do, so yes. Obviously there's a couple

you know very well. We've done smartphones apps, we developed the Brighton Museum app, really testing the waters for essentially what the demand is for an app that is a much more portable publication form of basic venue information as opposed to relying on connectivity to access the website which has worked very well. Obviously there's Story Drop app, which was much more of an R and D project. In fact that's very much its origins in terms of what we originally sought funding for, which is a geo location app about finding stories across the city. We also worked on a couple of projects experimenting with story telling. Actually one of my favorite projects from the last few years was something called Murder in the Manor, which was inviting young writers from the Little Green Pig group, to sort of turn Preston Manor into a murder mystery using 360 degree panoramic photography. And although it's a very unfashionable digital project, we've had some really good results from it. We have an average of 20-minute dwell time on the site, and there's nothing there apart from the Manor and young people's stories. So in terms of getting people to engage with content from young people - which is really hard it does work really well. And we're adapting that model for something called Tales of the Pavilion Hospital which should be going live in a couple of months this September, so there's the kind of big expensive projects. I've worked on quite a few other small things. There was an interactive again what Surface Impression worked on for our Spotlight Gallery which is really essentially a quiz as it stands at the moment, but you pick out peoples thoughts about things in the exhibition. This exhibition being about the Ice Age, picking up on the theme of climate change. Also much smaller experiments using social media, so something like the WW1 daily blog we are running at the moment which is not huge numbers, but you'd be surprised as how often it comes up in conversations with people who have actually seen it, which is an interesting one. And then sometimes tiny little things like Twitter Q&A. And there's also our blog and residence program which again has brought up

a lot of interest in so much that's its not us commissioning someone to tell the story we want them to tell, it's much more on the model of artist in residence - bring someone in to give them access to behind the scenes. They can pick up the stories they want to tell, we give them a nudge to certain areas but it's very much their voice and the stories they want to pick out, so quite a range of things actually.

**So you were mentioning before online collections - there's also the museums blog you founded? Did you start that?**

I didn't found it. It was my colleague Jenny Hand who left in 2011 and was our documentation manager for several years. And she set that up - I mean originally it was supposed to be quite a dedicated collections blog; the URL at the moment is still [rpmcollections.wordpress.com](http://rpmcollections.wordpress.com). But actually it's no longer just about the collections, I mean that was the sort of really artificial thinking we had, I mean we had different department doing different bits of digital but no, she set that up and a lot of my work has been in terms of shifting the focus perhaps and making it much more central to what we do.

**Do you see things like the blog or the website as media production or as a different kind of entity? How do you kind of categorize those?**

I do very much see as digital media. I mean maybe that's partly because before coming into the museum I did a masters course in Digital Media at Sussex University, so that's often tended to be my preferred term as a result of that. One of the things I've really questioned about a lot of digital activity in museums, is why is it so wrapped about around the concept of technology. Actually media is a much better term because it's about communicating with people you know. For me technology is like huge factories and rockets going to the moon, that's not what we do fundamentally, everything in museums is communicating with people, so it's

very much in the realm of media, and I think that kind of does help you focus a lot more on what you are actually trying to achieve with that. So yeah, I mean stuff like the blog, the website - it's all media at the end of the day. I mean even the more experimental things like Story Drop which you know, at the end of the day the GPS elements and the location thing may seem like the innovate part of it, but its actually the story telling outside in the museum where we've tried to innovate with that. And again that's really medium rather than a piece of technology that makes it significant.

**So maybe picking on a few favorites of our interesting examples of these, how did the original ideas arise? So where do you think they came from?**

It varies case by case. I mean to just pick a couple actually if you don't mind, I might just run through three of the them - quite different stories so it might be quite useful. One I haven't mentioned was a crowd sourced project we did called Map the Museum and actually it was one of the first things I worked on when I came into this role, because initially a lot of the expectation I would be working on social media projects and in fact, Map the Museum was the first one that kind of moved away from that. Actually it did help define my role to an extent, about what I was doing but Map the Museum really originally grew up out of a conversation with a company called Caper. Particularly someone called Rachael Coldicutt who works there, which was where we were thinking about doing hack in the museum, because at the time hacks were very fashionable but they seem to be fading a bit now. And Rachael's advice which was very sound, was not to do a hack but actually think more of a hack like project. I mean something relatively lightweight, and then just in the course of the afternoon between us we very quickly came up with idea for where people could pin up objects from our collections onto a map of Brighton and Hove, so we could harvest the information back as geolocation data. And that project has had quite a bit of acclaim but it actually doesn't work. I mean Caper did a very good

job in terms of delivering it, but it never really caught much of an audience. And in retrospect, it's quite obvious why it hasn't. I mean for one thing from what I gather from most crowdsourcing, projects tend to work because there's a tiny minority of super users who most of the work, and there's a scaling issue there because Brighton is a relatively small city, about 270,000 people. The number of people who will come to the website and the number of people who will be inclined to contribute to that is actually very very small, I think the most successful crowd sourcing projects I know of are those that tend to be kind of national and international in scale. Also aside from that, the nature of it was that it was something that was in retrospect was too technology driven. We really just looked at a way of getting software out there in almost an experimental fashion to show this is what you can do, but the limitations of the process is that not enough thought went into thinking about what are motivations for the users to use this. And it was designed to be very playful and a lot of what we did was taking the friction out of the process about what does someone actually get back from that. Why should someone contribute to this? I mean a lot of it was pegged around open data, but the sort of people who have the knowledge to pin those objects to the map and provide the location data for us are probably local history experts who won't necessarily know or care what open data is, and open data for people is still a very abstract term and people have yet to see the benefits of open data. You know I think its one of the issues where there's an awful lot of hype and really it has not been delivered on yet to be frank. I do agree with it in principle, so that was interestingly a project that worked very well in terms of getting the software out there at relatively low cost although it did actually come with a lot of hidden costs later on. But again it fundamentally didn't work for our users, because that thinking didn't go into that process. But as I say that really came out of us saying what we could do to explore digital at that very early stage in the sort of approach I wouldn't use now. The Story



Drop app is similar because its kind of another one that slightly predates Map the Museum, and again thinking about well how do we get people really engaged with our collections outside. And at the time it was the first wave of the HRC and Arts Council Digital R and D funding, and one of the areas they were looking at was geo location. So as you remember the idea grew from exploring that and using the app model, which I still think is the only way to go in terms of that particular experience. And then we didn't get the funding for that but the senior management liked it so much they actually put it into our major partner bid which is very difficult, because your looking at something that's quite big an investment in R and D, into a funding stream that you would normally expect to report back for KPI 's which is a really really hard thing to manage. And Story Drop is still very much in process, and one of the ironies about it is it struggled to get people actually engaged with using the app. But lots of people actually want to put content on it. It's a very very peculiar one; I mean it's almost the inverse of the Map the Museum actually. Although people don't really use Map the Museum apart from a few museum technologists, no one was really interested in Map the Museum. But people liked Story Drop as a particular platform, in fact that's come up recently; some other people are interested in doing something for it. I'm just not sure whether they have used the app yet, so it's odd. It's one of those areas where the narrow experience doesn't quite work but is still that impulse to take our collections and tell those stories outside. It's the thing that appeals to people. So a later project - Murder in the Manor was an interesting one because we had a significant amount of funding to develop a digital project with young people, and our application was very much talking about we will create games and things like that. So there was sort of half an idea to create something quite game like, and originally I wanted to work with a learning provider and I spoke to a couple of them but I never could get any of them to agree on anything. Time was ticking by and I had a large amount of money

that needed to be spent so I actually ended up designing something much more in house. I thought, well lets focus on Preston Manor which is one of our sites which has always been hard to promote and bring people to and it has a very stuffy history. I think it's very much the Edwardian Manor but it's quite hard to make it appeal to all audiences. And then it was really looking at what was happening with World Stories project which was co produced with lots of young people, and we noticed that the digital media that was produced - lots of films were really really stiff, there were hardly any views to them at all and attention rates were dropping off. And I turned it around and said well how do we create something that uses young peoples voices but actually get people to engage with it? And we put out an invitation to tender and we were deliberately quite open. Basically what I wanted to do was something that articulated the sense of the space of the Manor and a space in which it could be populated with stories. And I didn't specify how it would be done and one company called Say Digital came back suggesting panoramic photography which at the time I kind of thought as naff, and I thought it really relied on lots of flash which is a technology which I didn't want to touch, in particular because devices don't support it. But actually they did a very good job in terms of delivering it. I mean it works in pretty much everything. It's Html 5, so it's sustainable and the results I say, not huge in terms of numbers but people did engage with it and I was quite pleased with it. At the same time it was a very eccentric product, it doesn't fit in with any fashions in digital at the moment in terms of what we were trying to achieve. Which is how you really meanly bring young peoples voices to the front end of the museum. It was quite a success so again, that was starting around thinking very much about audience relationships, and I think now that's really the starting point for any digital project that we have. It's very much - in fact when I gave a paper in Museum Next last month, in fact the first slide I started off saying that I'd developed a rule now that was going to apply to myself, which is all digital projects

should never ever start with a discussion about the technology. You can start with the audiences, you can start with the collections or the buildings you are trying to get out there, but actually the technology comes into the middle or the end bit of that conversation. I never want to hear in a conversation 'I want to do an app or lets' do a website' because where's that going in a sense and I think for me now, innovation is really just about those changes in those relationships between audiences and our assets. And technology may be a part of that but it's not necessary and it's something that I've really increasing come to believe more and more, and in fact looking back to those projects that have worked better, I would even include Story Drop even though that's only a partial success at best, it is because it's that change in the relationship. Story Drop you know because some people liked the idea that they can tell these stories and dot them about the city. You know it's that change in the relationship that really appeals to people. And the same with Murder in the Manor. It was about taking young peoples voices and just radically remixing one of our sites and presenting it in kind of alternate version to people. Again for me that's innovation because that is really changing those relationships that we have, you know innovation is not an app or a website or augmented reality, it's really what you are doing with it I think - sorry I'm getting a bit preachy.

**So in terms of the decision making process how do projects such as those get the go ahead? What is it that allows them to happen and maybe not too?**

Yeah I'm fortunate. Although it's not the best thing organizationally to have had quite a lot of freedom over the years I think in part that's probably because I'm in a quite good position where I'm relatively well respected in the organization. I have worked on lots of different things, I'm sort of a digital specialist from

outside, and you know I do have a very very supportive boss actually, who like me actually believes in quick decision making you know. And given our workload and the amount we had to do and deliver according to funding, we can't spend an awful lot of time hanging around and making those decisions. So decision-making processes are changing. I mean for a couple of year's digital projects tended to get rubber stamped quite quickly, because they didn't fall into the creative programming processes, they do now. So the process now is that there is a creative programming panel which looks at exhibitions, digital projects etc., where they come before a discussion. Projects over a certain funding threshold have to go to the departmental management team who give them final sign off, so that kind of process is just coming in now.

### **Who makes up the creative programming panel?**

It's quite broad, the core programming team - which is four members of staff with key focus on different sites. Also someone from conservation. There are couple of curators are on there as well, marketing, retail, 3d designer. So it's intended to be a relatively broad swathe of people across the organization.

### **Sorry I interrupted you.**

No, no that's fine.

### **So you were saying there's a certain financial threshold it goes up to?**

It goes up to the departmental management team, but that's to say that process is just coming in now. I mean the slightly tricky thing with digital projects is that I think organizationally there is still a culture - sort of leave it to me to make decision. I think partly that's because of some of those areas around digital culture, a lot of people don't get necessarily. I mean if I was to suddenly talk about doing an open

data project if I can make the case, the Arts Council are interested in it and we use the arts council funding, it will probably go through because one of the things I'm assumed to do is know where those areas are etc. So it's not like an exhibition, which is much more recognized and understood model of actually engaging people, which tends to come up under a little more scrutiny. I don't know, to some extent that is still evolving and it's also quite tricky in terms of digital projects in that what I tend to do is not commit to firm release dates for them, which to be honest is what most people do in digital technology because you really don't want to be rushing something out when it really needs a few days more to fix. And you know that is almost the perceived way in which people do them and it's actually not a problem really, because you know these things normally stand alone to some extent unless they are supporting another exhibition or a display.

**Actually that relationship with the funder or funders, ACE, Arts Council is turning up in quite a lot in those projects, so do you have a direct relationship with the Arts Council or is that kind of through the organization?**

It's quite vague. I mean it's still I think even though museums have been under the Arts Councils remit for three years or so now I think that relationship is still very much playing out, so the whole institution of the relationship manager is still very new to us. I don't think there was anything really conferrable, back in the day like the MLA. So our principle relationship manager is Michael Cook who works with museums, but with digital projects he tends to defer to John Pratty who you know. So I very occasionally chat to John about some of these projects but we tend to talk more about specific areas than others and I don't have a huge amount of contact with him, and in fact when I do have contact with him it will tend to be something to do with like the Brighton Digital Festival. I mean obviously you know relationship

managers for the Arts Council have a huge geographic area - a large area, and it's a tricky one because the relationship manager is largely to be there in a respected advisory role but often they will have their own agendas, but I don't necessarily agree with various approaches. Yeah to some extent it's quite loose actually who we speak to on that, and obviously when it comes to the actual funding then that is all dealt at a national level, actually that's what determines our digital approach I suppose.

**Are there any other stakeholder groups that you need to relate to with these projects? You know this could be the council or any funder like that.**

Occasionally. I mean for instance there's one we have funding at the moment from HLF for a community archaeology project in Whitehawk, that has a couple of digital elements to it. So again they are another funder. Actually the HLF are quite clear what they expect from digital, I think quite honestly there's clearer than the Arts Council, I quite respect their approach in any ways, so yes they are another funder we have to be quite mindful of. I think lots of other funding sometimes having digital will help, but necessarily the funder doesn't come with a clear of what they expect from digital. I think very probably the HLF and the Arts Council are clearer in that area, but yes otherwise we do have to work within certain limits from the Council, although again that relationship is quite a tricky one because the Council, well at least there's sort of corporates ICT who won't necessarily understand the business case for many of the things we are actually doing. And most of the time these are things I can get commissioned without getting any of them involved. When it comes to the key networking and the infrastructure then yes they have to be involved, but one thing like a website or an app then we've got quite a lot of freedom to do that, or at least I've not been told that I can't. I mean officially there's a sort of chained management body, but I think I just asked the head of ICT a few

years ago - can I do this? I didn't get a reply and I tend to go ahead. I mean when it comes to websites we need some sort of permission but it's not been a problem. In terms of social media, strictly speaking we do have to get permission for setting up new accounts, but that relationship has become a lot looser and to some extent I think it reflects our direction of travel which is becoming a bit more independent of the Council in some form or another. That's not an official viewpoint but that's the way in which it is moving.

**So when producing the project how do you go about pulling together the people and resources and the things you need to do it? What's the sort of processes you tend to take?**

Far too chaotically to be honest. The problem like most people is trying to organize things with very little time. I mean one of the odd things about the last two and a half years or so is that we've actually had you know quite a decent amount of funds to deliver various things, but really not the time to deliver all those things and there're not been projects where I can necessarily pay someone to come in and deliver parts of them, you do that where possible but there are often things when I simply couldn't do that and that's tough. I mean I try to work in a quite of small agile way, you know not the kind of agile software development, just to try and move things very clearly and actually be quite responsive around where we have been working. We do have a formal project management structure coming in at the moment which I have yet to use I must admit. But it's interesting because on the one hand it's very good to have that for accountability, on the other hand in terms of actually just getting things done in a very narrow time frame is very very hard, and I think what that structure to some extent doesn't recognize is how very often we have to be reactive. So there's one project that we were working on for the Brighton Digital Festival, which is just two months away in September. We have

an expectation to deliver something for that festival, partly because of the funding, partly because we are a member of the consortium, a major partner museum along with the MPO's in Brighton. We are expected to have some involvement with that, but actually from initial discussions back in April with Brighton New Film Festival who work with having the idea in a position where we can actually go ahead with it, you know the project management framework does not frankly work with it on that time scale. Particularly when your relying on other partners to come in, so that is almost free form juggling I say that not to advocate it, but that is a real problem and I think organizationally that is something we need to work through, and I do think there has to be recognition that project management structures are great, but they had to genuinely recognize what the demands of peoples times are in the organization.

**And if you're trying to say get the help of a college who's part of the project  
- what do you tend to do to get that to happen?**

Again it varies very much case-by-case basis. So some of the projects, particularly those working with children and young people often initially it's just been getting the consent of people working in those areas to say ok that's fine, I like this, lets go ahead with this. In some cases they will get involved with some elements of it, other times they will refer me to other people. So with Murder in the Manor for instance, another learning or young persons project by any means, I had the recommendations to work with Little Green Pig and actually they delivered the workshop and the recruitment of the young people to work on that, so I could just facilitate that without actually concentrating much more on the overall project management, pulling in the actual developer to work with that. So yeah, in terms of getting people interested in what we are actually doing it's an interesting one. I think what tends to happen on those kinds of projects is that I outline what we are



trying to do and then much of it has been on an experimental basis, it is actually - lets try this, and people come along and say great because I think very often most professionals in the organization have a specific remit about what they want to see, their collection or their particular activity represented in digital. So if I say ok we've got funding to do this, I want to create a website where kids can kind of create games based on Preston Manor, a young person specialist might think - great at least it gets the work I do or a broad area out there so. Similarly if I say to the Fine Art curator - Ok so you've done an exhibition on Turner, actually you've got an expert on Georgian history - can we get her to turn her talk into a tour around the town? And again I think what appeals to people is actually publishing. At the end of the day it's kind of taking people's areas of work and making them public and I think that's the way to get people's consent and involvement in that, and I think practically speaking I don't tend to demand a huge amount of time from other people. Very often there not they're to give it. I think if people want to get more involved that's fine generally, but very often I think people are usually kind of happy to go though the basic idea. I mean one thing I should say much as I've been saying I tend to be quite chaotic shamefully, in terms of delivery the projects. One thing I do initially from the outset of the project is do quite a detailed rigorous scoping out of what the project will be and that really is pulling together not so much really the outcomes, but certainly the ambitions of the project and why were doing it, making that particular case. And I think that's the one important piece of documentation you have to have so there's usually a pretty robust document of wireframes right at the outset, so with the other aspects of the project management aren't very well recorded or very well implemented at least there is that document about what were trying to do from the outset at least.

**And then in terms of working with people outside of the organization - so**

**they might be a supplier or a partner, how do you tend to rope them into the project?**

Again it's a very similar process. It's sort of articulating the ambitions of what we are trying to do, but I tend to give people quite specific roles, so for instance again Murder in the Manor comes up. It's been quite collaborative. Little Green Pig were very much there to recruit the writers and deliver the story according to the broad parameters I set out, but to be honest I don't think they had much more than a hazy understanding of what we were going to achieve by the end. But that didn't matter because they knew broadly what to deliver and to concentrate on doing the story, and that's fine because that's what they actually do, they are storytellers and they work with young people. And on the technology side Say Digital who came up with the idea, they kind of worked out a scope on what they had to deliver on the technology side, they had an expectation broadly of what content would be coming in through to them in terms of the assets, what would be brought in and they delivered that side of it. And my job was to put two bits of it together, so it suddenly made sense to those people when actually in that particular project that kind of worked well. So yeah in terms of getting more people engaged I tend to not get too many people involved overall, and funnily enough I found that people don't necessarily want to. What was really interesting about Murder in the Manor, was that when we were talking to the young people I thought well should I get them more interested in some of the design aspects? So we decided quite late on that all the characters in the murder mystery really needed pictures of them, and we talked about should we have a Facebook group or something where we could share designs and images, and actually the young writers weren't actually that interested. I mean they were really interested in the final product, most of them came along to the preview and really liked it but actually quite happy to stay out of that kind of action. I think quite often people are happy to do that. They will contribute their one

part and sit back and won't want to do those other bits, and certainly in terms of managing those products, that's a lot easier to implement and a lot more coherent. And in fact it's even the same with the web redevelopment at the moment, I think you know as long as I can explain to people where we are going and actually the evidence on what decisions are being made, I think it should be good enough to get people to concentrate on the little bits of content that I will need from them for the initial launch.

**With these projects were there any big surprises or changes to the projects that happened as they were going along?**

I think once we got to the point where the idea was fixed, I think there were kind of refinements to the idea but nothing actually that radical. Actually I mean things moved around slightly but I think not in a way that hugely changes the essence of what we were trying to do. I think the thing that always surprises me invariably is audience's reactions to things. You know having worked on this stuff for three years now I'm always baffled when some things work and something's don't. I'm continually surprised by that, so for instance the Brighton Museums app we did together - I'm still astonished there's such a high conversion rate from people downloading the app to them coming and using it to get into the Pavilion, way way way above whatever I would have expected. Again with Murder in the Manor I was very very surprised that people spent so long on it and actually engaged in the story and don't just look around at the photos which they could of done. That was kind of one of the more experimental things with it. Equally when things don't work, I was quite surprised even at the level on our social media I can't understand about our tumblr. Some posts do very well and others don't. Sometimes you can work out why something you know might hit a nerve. You talk about something that's very timely in one form or another, but sometimes the most obscure things I don't

believe in viral but sometimes something's become very spreadable that's my Henry Jenkins term, and it's not entirely clear why that is.

**And in terms of the kind of the voice of the products, if you see what I mean - do you feel they are the museum speaking or the contributors speaking or some kind of hybrid - how do you see that?**

I think a big thing actually about what we do in the Royal Pavilion and Museums anyway, which I think is not unique to us, but I think it has almost become a specialism, is around co-production. And that's certainly an element of actually most of the digital products I've worked on in various ways, and I think in terms of the way in which a lot of innovative digital projects in museums are thought of co-production doesn't actually fall into that way of thinking, because it's a very specific thing. It's a crowd sources model which is kind of much more passive, and you're pulling bits of information in from people and when people want to come to the site and find it, but the idea that you actively seek the people and bring their voices in and create something new, that you push back to people. I mean that's in our blog and residence program, that's in Murder in the Manor, it's a key part of Story Drop etc. It's a very different model, but actually I think a lot of digital folk don't get that so much I think. I can't remember what it was, I think it was Story Drop, someone commented on it was kind of curated content because we were sort of deciding on who should contribute. And I thought, well for a start I disagree with the word curating, it's absolute nonsense. I understand the point of curators, you know when I was a curator I never curated anything, I did stuff. Absolute nonsense. But I think it's those co-productive relationships where we just say ok we want to put this out there, we think you have a story to tell, let us create the platform or space or opportunity for you to come in and tell your story. And I think that's a really interesting way of working. There's an awful lot of projects you can work around

and in fact we do, and not all of them are digital at all, but I think in terms of the very fashionable things and the language they use around digital terminology co-production is almost not recognized actually.

**And how do you share your experiences with colleagues and in the museum and in the sector?**

I do find myself presenting a lot of stuff internally, and sort of talking about ways of thinking. Obviously there's some evaluation reporting that goes on, often for funders and often internally as well around products or projects rather, and we can kind of report back on what worked and what didn't work. One thing I do try to do quite rigorously is be very honest about what works and what doesn't. I'm not a big fan of how the failing forwards idea works in digital because partly it underlines the relative lack of importance of what you do. Because you know, if you're a heart surgeon or airline pilot you can't talk about failing forwards. You know the fact you can do it as a digital person in a museum just really points out that at the end of the day you are not dealing with life and death stuff, I know Culture 24 doing their church of fail thing, and I think it's an absolutely awful idea personally, but anyway that's going off on a tangent. But I don't think there's an obligation to be very honest. So in terms of other stuff that goes on in the sector I mean I presented quite a few conference papers, and I do tend to be quite honest, so the paper I did for Museum Next last month when I was talking about Story Drop, I actually talked a lot about the stuff that didn't work, and actually all of it was actually quite useful for people that they ought to know which is one of those issues around expectations of how people will use their own devices for those types of things. And you know, pick out things that actually some people using the app is that they don't realize their actually supposed to walk to a spot you know, and there's serious things you got to think of. We are so used to sort of screen simulating experiences that the idea

of something saying go to a place what I walk there? Is it a really really important place? And I think if you're going to do I say experimental rather than R and D work, you really have an obligation particularly if there's public money going in to that, to be honest about what works and what doesn't. And I think you know I'm not really a big fan of the conference paper where you are just showing off - look we did this, a celebratory thing, which is still what a lot of people ought to do, and yeah occasionally when I have time I sort of have my own blog, and I've written quite honestly about some things, and in fact that worked really well in Murder in the Manor. Because I wrote one piece about it that got picked up by Play the Past, quite an influential blog in the US about gaming. And what they picked up was that I was arguing that the gamish thing actually games kind of pull you down into role-based methods of interpretation that don't sit very well with some subjects. It's great for science or economic history which sort of role based processes, but actually if you're trying to talk about history for the Suffragettes you know, could you really make a game without being very crass. You know it's that idea, talking about those experiences that worked quite well and I'd like to do more of that but actually I simply don't get the time to be honest.

### **So why do you think museums need to produce media?**

Because they've always been media organizations, I mean pure and simple. Ultimately you know, you can argue about what is the definition of media or a medium. You could go with the Marshall McLuhan type of thing, and say everything is a medium of one form or another, which I have some sympathy for. But what it comes down to is museums have always been there to communicate with the public. You know that is part of the essence and will not change, while museums exist and I think it's also quite a pertinent point now, because I've noticed in the last few months is that there's suddenly a discussion in museums about

designing digital projects to cater for audience needs. And a lot of it is inspired by the very kind of user centric work of the Government Digital Service and they are great which is very good. But there's an issue around museums that people haven't grasped because I think what Julie Estuary did very well, was present government as essentially being providing a service for the people. And most of the time what the government supplies they have a monopoly over. You don't need to market passports because no one else can supply you with a passport and I think it works with that model really well. But the issue with museums is they don't sit solely within the realm of needs. They are attractions you know. In the museum sector we never talk about ourselves being attractions because we might sound like a fairground ride or something like that, but actually we really are attractions. We not just in the business of wants, in fact the level of customer service, sure were in the business of wants, but actually that only applies when someone is interested in coming to you in the first place. If you're there about actually really wanting people to engage with you, you're in the business of wants and wants are very different in that you can create wants to some extent. And that's coming out in the work around the website in that a lot of what we as museums have to do is a lot more about well there's this but actually would you also be interested in this, and actually making those kind of contextual links to other things really so you know. If someone is interested in your Decorative Art displays, well then say actually we've got some really nice blog pieces written about our Decorative Art collection, or here are the online collections etc., around pulling those things together and I think again that's why you need media because it's about communicating with people. It really is not a technology thing at all, I mean the technology is you know just what gets it to work and actually in itself, for me is not that interesting and increasingly less interesting. Actually funnily enough my role, and I was saying this to a couple of people recently is turning into being very much a publisher actually, and in fact I was chatting to

someone at Museum Next about this an ex journalist, and she just said she was quite struck by my talk and that actually my approach to it was very much like a newspaper editor. And I've no experience in working in the press or journalism at all but I can kind of see where she's coming from, because you know the logical output of being more open. And trying to engage with people is making stuff available to the public and that is publishing, and that's when you do fall into editorial modes of working.



## **Interview:**

### **Sejul Malde, Culture24**

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#### **So Sej could you tell me who are you and what you do at culture24?**

My name is Sejul Malde and I'm research manager at culture 24 and my role is varied really. But I guess in essence it's about one of the areas we work in the knowledge area really, trying to make sense of what digital means for the museum and gallery sector, and how they can better think about it and us and build their skills. So I guess I lead a lot of projects that work in the knowledge area in both in terms of gathering more knowledge from the sector in how they are thinking about connecting with audiences online. But then also feeding that knowledge back out via the workshops conferences, that type of thing really so that's the main kind of part.

#### **And so recently you gave a talk at the UK museums mini conference in Cambridge and the topic of that was innovation. And you were preparing how innovation was treated in your previous work pre-museum sector, pre-culture 24 and then in present day, could you tell me a little bit more about what you were trying to get across there?**

So yeah, I think I was really trying to unpack and bring under the spotlight so people can try to make sense of what innovation actually means, because I think that one of the things I'm quite interested in and I see quite a lot in my work in the cultural sector, is that there is a lot of words that are kind of borrowed and transferred across. And maybe have originated from the commercial sector or from a different debate or discussion and are kind of borrowed across, and are often

unpacked and challenged. The question I guess is what does innovation means to us in an organization, and what we're trying to do. But there's always an assumption that innovation is this thing, and often it's a loaded word with lots of kind of open desires and assumptions of what it can do. So for example innovation especially connected to digital now, innovation has become a term that has become part of that whole idea - is that how you can generate more money, more competitive and reach new audiences. And on the face of it that's not necessarily the case, you can't just assume. So it was really just about trying to challenge that terminology and understand what that means for us in the cultural sector, and how you can think about innovation, not just as new stuff, new things but about change in the way you think about tackling a brand new project or idea, just taking a different approach to an existing service or an existing thing that you do. It's just really trying to get across that idea of terminology.

**And so in the commercial sector, give a little run down of that you were doing before.**

Yeah, so I used to work as a tax consultant of all things. I worked at PWC, I worked at KPMG for a while, and also at KPMG I was quite involved with technology, technological processes that deliver tax services as well. So one of the things I highlighted on my talk was how we used to have these gatherings with staff at KPMG, where people leading the firm would convey what's going on with the firm, and invariably because its a commercial orientated firm and sector, it's very much about competition. How are you doing against your competitors? And at the time I think it was the big four - it used to be the big six, the big four accounting firms, usually there would be league tables of the big four and this is how were doing and this is what we need to improve on. So it's all very much framed around competition. And then I remember one of those sessions was very much talking

about innovation and they wanted to get across the idea of innovation and they wanted everybody to think innovatory and they conveyed this by showing us videos of Thomas Edison inventing the light bulb and you too can be innovative by developing innovative tech strategies that are supposable exciting as developing a light bulb. I guess so they were just getting it across that idea it was wrapped around a lot of rhetoric, there was a lot of it around innovation will make us more competitive. Maybe it will maybe it won't, innovation is about creativity, it's about the new and I guess I'm interested in it in terms of where it was discussed in those terms, and then how it influenced us in a similar way in the cultural sector as well. And I would challenge this, it's about the creativity and the new and I would challenge that. What was the first thing I said? Oh, about competition?

### **Competition.**

And you know because the cultural sector you can innovate to collaborate.

### **So how do you think or how have you observed people in the cultural sector talking about innovation? Is it similar? Or is it quite different?**

I think from my experience of it, it's never challenged enough in terms of what it means.

### **So it's just used as a word?**

Yeah, it's used as a word and everyone knows the meaning of it's a very simple meaning.

### **Or they are assuming?**

Yeah I mean there's lots of words, people talk about. But innovation is one of those that really sort of frustrates me, because I think it's come out of the last few years

where obviously in the time of cuts and the art sector, museums struggling, there's been more pressure to innovate because supposedly that will allow them to fill the funding gap and generate more income when you know that might happen. As I say it's the wrong kind of conversation to have. I think it's 'oh there's an interesting idea called innovation that were being told to do more of, what does that really mean for us?' Another thing I've seen I guess in the cultural sector is with funding agreements and funders so certainly.

### **So funders using the language?**

Yeah I think there's just a lack of reflectivity that comes through from all these stakeholders in the sector, whether they are museum professionals or funders so for example the Digital R and D fund, the Arts Council, NESTA and AHRC is there fulfilling a particular gap in the market which is absolutely needed because there is a lack of funding for R and D activity within the cultural sector. But that's R and D and again that's another word framed in a very specific way. Which is kind of thought about R and D sciences about developing products going off into a room, working agile working in an agile way, developing some products, taking them to markets, testing prototypes and taking it to market. So it's loaded around new products, and I think it's not been translated or no effort has been made, you know what does this really mean for existing cultural organizations? What does it mean and also can they implement the similar types of process we are advocating within their organization? Often there are big challenges in thinking that way and working that way.

And the relationship between R and D as a concept and innovation as a concept was that interlinked in that case? Or do you think they were?

I think that they are pretty much interlinked when they talk about it and they are kind of different, not totally different things but one is about a process and about what you need to put in place organizationally. And I think the other one is about an outcome about a sense of value I think.

**So tell me a bit about what you're doing with the Lets Get Real program - if I can call it a program.**

Yeah, yeah I guess it sort of is now, so Lets Get Real is a program of collaborative action research. Shall I just do a quick little summary?

**Please do.**

So I guess the way I have been trying to talk about it recently are that it's around coming together - the sector, the cultural sector coming together around certain questions that they are trying to make sense of to do with digital very broadly.

So the first project was around digital success and metrics. The second one was a lot more about trying to understand audiences. The third one was about content and what you have and how do you make that relevant to audiences in an online world and the fourth one is taking all those bits of learning and thinking more holistically about how you can build more of a kind of editorial narrative around your relationship with your content and your audiences, but also how do you work internally and how does your organization overcome some of its own silos mentalities and difficulties, internal collaboration to kind of fit the model for flexible changing audience. So it's about being holistic in what you do to create audiences and being more holistic in the way you create them. The program is kind of shaped around developing and there's three main areas I think learning from others. So that's bring in experts such as yourself from other sectors to provide insight into these ideas and these issues to the group, learning by doing. So very

much supporting people by running their own self contained experiments - test out certain ideas by thinking about audiences, shaping content, developing narrative strategies, developing ways of organizational strategies, trying that out and seeing where it goes and having something to reflect back on in the end. The last thing is learning together, so basically a lot of power in getting people from different organizations, all people in the cultural sector to come together, even though they have different missions, different objectives as such coming together to talk about these issues by reflecting on their own experiments they have some common thread. There's a lot of power in that, so the program is about those kind of elements and it's trying to understand these questions and it's both at a higher level for the sector in terms of what the ways of thinking are and also practically in what we can do to begin to make sense of this. So that's the program and I guess shall I say a little bit about how I see innovation working in there?

**Yeah.**

So I guess one of the other things that was my reflection from the KPMG experience was how innovation was this top down idea. And it came very much from I guess because we used to go to these sections that would take place in places like the Excel Centre. These huge things with big like booming lights, watching these films - you know it was a bit like the wizard, the spectacle, the booming voice, isn't this all-wonderful kind of idea. And you get kind of wrapped up in it. There's a certain degree of brainwashing that goes on, but yeah innovation is this force from above that is basically the way that the world is and you need to innovate to adapt or cope in the world. And therefore you need to do something about it, more reactive than not I guess and I guess I'm interested in the idea that innovation from the opposite from the bottom up and can be very much sort of small scale and it doesn't have to be developing or inventing the light bulb. As I say it can be doing

what you're doing at the moment, thinking about it, doing it in a different way and I guess Lets Get Real in a range of ways I think is trying to do that. So I think for example for getting organizations to run experiments and just try stuff, think about what they want to do, try it, iterate talk about it, be very open. There's a lot in there that is about changing the way they think and their rhythms internally. Because you know certainly with museums at least they have very small slow moving kind of processes, things don't often get done, they get blocked very easily and that's the way they kind of work, their internal rhythm changing that by doing these very quick, small scale, agile experiments - kind of challenges. I think that's innovation of its own type.

**So typically with Lets Get Real you have an individual who's delegated from an organization to the program. How do you think things come back from the individual to the organization?**

That's the sort of challenge I think. If I was honest I would say that there is from what I've seen, it's very difficult for it to feedback to the organization and the organization to change, unless that person is very proactive and has a certain profile and is very kind of enthusiastic about taking that learning on to other work. And I'm not say that doesn't happen but I guess with that sort of project there's a sense of enthusiasm while it's on but once it's over it's very hard to think how learning embeds itself. This time around we're trying to get them to involve other people in their organization in the experiment so to not only test out some of those challenges via internal collaboration but to get more organization focus on the experiments. It isn't just the work of one participant, just their view, just their thinking. It's a kind of shared thing and hopefully that goes back a lot easily to the organization. I think we should think about how that works, going forward how we embed it. There is the opportunity to embed the learning though you know

writing the report, doing kind of the learning we get from Lets Get Real from the workshops. As I said from the start putting the learning back and so there are ways that can trigger ideas in other words.

**And could you just quickly describe how does an individual learner as part of Lets Get Real - how do they undertake, at least in this current one, how do they go about their part of the project?**

How do they go about it?

**Yeah how do they? What's the kind of steps they are going through as they take part?**

Ok so I think they would probably, ok so they attend the kick off workshop and the kickoff workshop is usually about putting in the ideas, framing the kind of knowledge of the project that we're trying to explore. So bringing experts to talk about story telling as an editorial strategy means thinking about the audiences and how you might think about audiences in terms of behaviors, but also in terms of patterns, feeding in one of these kind of organizational challenges that you have to overcome. So all the kind of elements of thinking that's gone into the sealing of the project and developing it I guess. In the first workshop they would sit there and listen to these people and try and make sense of this kind of landscape of ideas and get to know their fellow participants. And then usually at the next workshop It's kind of thinking about the practical application of those ideas to their own certain sectors. And that's done through starting to develop and thinking about and experimenting. And the experiment as I say could be, it doesn't have to be the most detailed thing in the world, it's about getting the practical ideas to that situation and then they would think about how that would work through with support from us and they would probably go back to their organization and discuss it with



their colleagues and probably have a bit of back and forth thinking about it. Then basically develop an idea they can start running, start their experiment and then in an subsequent workshop they would come back and talk about how that workshop is going. We may well introduce more practical tactics and tools that can help them overcome certain challenges they may be facing, that sort of thing. Get them to kind of think about how their measuring, what their doing and evaluating it and then reiterate the experiment if appropriate, and go away and then kind of come back and after the experiment is over, after a couple of months and having that time at the end to reflect back. And I think that's quite important because when you're in the middle of doing something, maybe this is something that goes back to the point of how you embed that learning into your organization, in the past I think we've kind of experiment has gone all the way up to the final workshop, and everyone is still trying to make sense of it. Whereas this time I think it's get them to finish it earlier and allow things to settle, the dust to settle a little bit, and think okay what did that really mean for us as an organization? What did we learn? And often the learning when you've had some time and space away from that and I think then getting them to really think about well what can you do practically with the learning you've got? How can you practically take that back to your organization in other ways? It's something I'd be interested in exploring that could be a way given the time at the end. That could be a way to feedback into the organization. So that's the sort of journey they would go on as well as keep talking to their fellow participants, use that group as a safe. I think that's quite important as well. A sort of safe group you kind of talk about ideas and support each other and realize that all of this is difficult and no one has the right answers and you can only give a scope of ideas.

**Have you observed any pattern in what kinds of digital media people go for?**

In terms of?

**What types of digital media do participants, is there any observable pattern in the kind of in like how do they approach a piece of digital media they want to use in their experiment - have you spotted anything there?**

How they approach it?

**Or how do they choose in simple terms?**

How do they choose digital media?

**Yeah a project.**

I think there's always a tendency to want to revert back to the website and I think that there's still a tendency to feel that's the main channel. And I think that must also come from organizational pressure as well, because there's always a pressure to keep to have your website as whizzy and as engaging as it can be and less thinking about the other ways you can connect to your audience. And I think just focusing on your website is problematic because it's still very much a case of a very sort of traditional view of here is all the culture in a shop window come and get it, and less about kind of engaging your audience in some kind of dialogue. That is more interesting so that's probably where I guess is always the sort of..

**Is that the kind of fallback position almost?**

Yeah, yeah I think I would say so.

**And the ones that choose other than the website?**

Yeah.

**Is there any pattern in the choices they make? What they're going to do their experiment with?**

Well I guess the main other one, just as a channel would be Twitter and I guess trying out different editorial approaches or you're content processes, by which you're developing your platform for Twitter, trying those out. There is also a lot, it's not focusing on media but there is a lot of tendency which is fine to revert back to wanting to understand more about the audience, which is fine, but it's I would say it's important to try and do that but also try putting stuff out there as well, test that out. There's probably less, very little focus on generating videos or trying out producing videos or embedding videos using that, not that much surprisingly not much focus on understanding images, getting images out there in a very image led world.

**So you think they tend to come from a text content?**

Text? Yeah I think so.

**And also background?**

Yeah I think that's right yeah.

**Interesting. And in your kind of higher view with Culture24 in a sector as a whole, are you spotting any kind of trends in using the use of media in general? Or the way media interacts with museums, is there any patterns you get from your viewpoint where you are? Or is that a little bit too muddy to see?**

Yeah it's hard I guess. We don't see enough of the practical, what goes on practically within museums and their connection to media apart from projects we work on that try and facilitate that in some way. So I guess obviously with things like Connecting

Connections, Show Me and Van Go Yourself we've been trying to work with museums to get good images from them which we can publish, and that has proved quite challenging because of licensing issues, but also just getting good quality high resolution images that tell a good story.

**So coming at it at a slightly different angle - so there are different kinds of organization that kind of span across museums of which there are many, but Culture 24 is one of those and you yourselves do media things like the main Culture24 site. How do you think those kinds of activities relate across the sector with museums audiences and yourselves in the middle? How do you sort of see these positions working?**

In what way?

**Sorry in terms of as a publisher almost.**

Okay so as a publisher.

**Yeah yeah.**

How do we see those positions working?

**Want me to rephrase that?**

Yeah it's quite broad.

**Yeah I'm actually looking for a broad open view. So alright in a way thinking about media in general and the fact that Culture24 concerns itself with museums among other things, how do you handle that interaction between you have an audience you have museums you work with how do you filter that information and bring it across and what sort of policies and**

**ideas and things like that do you bring into the mix?**

**Culture24 - how do you approach your own generation?**

Oh okay.

**That might be the simplest way, I should of asked it that way in the first place, sorry.**

Yeah so I guess it's about trying to bridge that gap as you say. You've got that audience on one side you're museums who I guess we regard as the source of the content, we are the ones who try and shape that, editorialize it, select it you know for the audience. So it's an element of understand what the audience wants, where there's an interest and what is out there in the museum sector that can fulfill that interest and bridging those two things and forging that link between audiences in museums. I guess in the past we've been very much the case of thinking about less about the audience's need and meeting it very much. Oh what have you got out there all this great stuff great great great great and then putting it, editorlising it and then putting it up online. And now increasingly they're trying to become more selective and more responsive to the audience and learn how to say no better. Some stuff that shouldn't go on and work, I mean in an ideal world I don't think we'd necessary do this yet I think work more work better with museums tapping into their expertise and kind of their sort of a role it isn't them going all there's all this great stuff, it's them going well there is this really great stuff because you've told me this is an audience need, now that you've told me that it made me think that actually there's this great story about this vase and it kind of connects with this other object we've got. So I guess as a facilitator of those triggers of story telling and expertise, which is where museums have got so much strength and I think a role as a publisher we should be doing that more, getting those stories out, putting forward that.

Actually there's this interest in audiences in pots blah blah blah what have you got

over there? And kind of getting them to think about what they pick in their stories and then taking that and shaping it like we've done in the past. And yeah, so I think more of a kind of facilitator of conversation to channel the expertise and meet the audience's needs.

**Great that's very interesting. And how do you think yourselves approach which media channels you choose?**

How do we approach it?

**Yeah, how do you make your choices?**

So when you say media choices...

**In the most boring way. There is Facebook over here; we could do a newspaper next week you know what I mean. How do you choose the media you operate in?**

Well I think again in the past we've just gone with what is the established media routes and I guess historically it's been your website, Facebook and Twitter right which we did do. But I think we've been now looking a bit more about what we think works for us. Put the website to one side for the moment because it is a service we have, although we have our we are Culture24 website but I guess with Twitter and Facebook we realized ages ago that Twitter totally works for us because of the tone, the style, the voice, the relationship we have with our audiences. I think Twitter is kind of the best way to engage with them and Facebook doesn't really serve much of a purpose we still maintain a Facebook profile but I don't know if we shouldn't just pull the plug on it. I believe we are experimenting with Pinterest, you're know more about it than me.... ...Tumblr so we I don't know I think we could be more experimental, try and think about how that could work for us. So I

think having said that we haven't been that reactive like we must because we're not an organization. I don't know why do we not need it we haven't been that reactive we must have all these accounts I don't think...

**So you haven't run out after every product that turns up?**

Yeah rushed after it I think. We have been a bit more strategic in that way but I think we could think about trying out other channels in a more informed and more experimental way.

**Perhaps taking experience from Lets Get Real how others have done it and Van Go Yourself I suppose that is what you are doing with the pinterest experiment because you are taking part in your own program then.**

Yeah I mean I guess it comes down to that thing I just said about which is interesting, talking about it, what is our role of facilitating museums and museological content and expertise and stuff and could be content but it's also their expertise as I say and their knowledge with the audience and that facilitation. So looking at that and keep revisiting that, that's what publishing purpose is trying to do, we're not just trying to just pump stuff out, really trying to facilitate in quite an interesting way this conversation. And so revisiting that and thinking about how we could do that in other ways and in other channels and through another medium it might be the way to go. So being led by that kind of ultimate purpose but almost challenging what that purpose is because it's very easy publishing is sort of just changing what does publishing really mean? It's so broad that you always have to keep; it's a movable thing that's what it is. So we at Culture24 need to keep reviewing what is our publishing function and maybe reframing it and talking about it in different ways. And then when we do that we think about as a natural consequence what is the media we are using to enable that change in the relationship if there is one and what

fulfills that and not just be lead by the type of content or theme for that subject.

**And hearing that, do you think that would be in a kind of general sense a useful policy for museums in terms of how it approaches media? Are you in a similar boat?**

I would of thought absolutely most organizations are very bad at challenging. I mean fundamentally I would say just taking a step right back, museums have to continually in the same way you have to look at publishing as a thing, you have to continually be questioning your mission as a sort of public body and public value because public value is changing. What does the public mean? What is the value of it? Like I was saying to you before we sat down here, you know the idea that you have established culture and you're using digital just as a channel to serve the same culture you've always done in the same way to audiences, even though there sort of over there is not about being adaptable to digital culture it's actually about understanding what is the audience doing, what is there culture how can we have a conversation. Right it's a public value, it's a changing thing, so therefore museums have to keep revisiting why they exist and where relationships with audiences and what role the audience has and then from there, think about the media that facilitates us. So it could be about media that is about facilitates and conversations with your audience so you have a better understanding of their own digital culture rather than media as a channel to basically communicate your established culture to your established audience. So yes, I think it definitely needs to look at your need to start that way round and that also comes back to what I was saying at the start, just always always challenging these terminologies and what they mean, you know innovation as an example as that so is public value.

**Yeah yeah, that is a perfect place to end. Thank you Sej .**



## **Interview:**

### **Nick Hewitt, Portsmouth Historic Dockyard**

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**So if you could just tell me who you are and where you work?**

My name is Nick Hewitt and I'm Strategic Development Executive at the National Museum of the Royal Navy and before that I was Head of Attractions and Collections for Portsmouth Naval Base Property Trust.

**So what we are going to explore in this conversation is media production in museums and what I was hoping to do particularly because of your experience, compare that to media production in general because you've got that experience in television production, things like that.**

**So perhaps we could start with the Portsmouth Historic Dockyard App, I was just wondering how that came about?**

So that came about as a need to recognize interpretation of the Historic Dockyard, which is this kind of disparate collection of attractions and historic buildings run by different people and different government structures, sitting under this marketing umbrella that is Portsmouth Historic Dockyard, but actually quite dysfunctional inside. And what we were looking to do was to create some sort of interpretive and navigational product that would act as a thread to pull the site together and make it a bit more coherent. And we've looked at other options in the past - we looked at interpretation boards, we looked at audio guides. But actually modern technology and the concept on using a phone app seemed to us the least intrusive and effective way of doing it.

**So do you find in the museum setting that the kind of media choice and what medium you are going to use to deliver some interpretation to somebody do you think that leads to content or do you look for an agenda?**

No I think its very interesting. I think its a really good question, you look for what your content or project is supposed to achieve, the audience its suppose to reach, and then you pick the right medium to deliver it. So in the case of the phone app we knew what we wanted to achieve and the phone app was the most appropriate mode of technology to deliver that. Most of my interpretation experience has been gallery exhibitions and that's interesting again because its completely mixed media. You use some film, some pure audio; touch screen interactive and that kind of technology, and additional printed matter. It's looking at what piece of interptation would lend itself best to tell the story of the objects you are looking at. So for instance, very recently I've seen in Belfast brilliant touch screen interactive using ship plans and drawings. That's fantastic, it's a really really appropriate way of using technology to do it, whereas just as a 2d thing on the wall it doesn't work quite so well. If you want to have the voice of the veterans in the gallery the best way to do it actually is to have their voices as recording. Of course sometimes that doesn't always work in which case directly quoting them in a printed way is a better thing. So it's finding the right piece of delivery to deliver a particular part of the narrative.

**So the other thing I wanted to talk about, so within the museum setting or the heritage setting, how do you get a project rolling? How do you buy in the kind of people you need to buy in order for it to happen?**

Interesting. It depends on the project. So for this one the phone app is probably not the best project to talk about because it was quite different because of the multiple politics.

**Think of any kind of development project.**

So I'm working on an exhibition now for the Museum of the Royal Navy for Gallipoli, because the Gallipoli centenary is 2015. It's one of two or three key events from the First World War that has a strong naval story. It's directly related to opening of our new historic ship HMS M33 which was at Gallipoli, and also in a serendipitous part of it the Gallipoli campaign. It involved all aspects of the naval service, which is great when your trying to bring 5 museums together into one single museum and get them to think collectively. So the submarines were there, the Royal Navy was there, the Surface Fleet was there, the marines were there. So that was the kind of thought process that lead to that exhibition being given the go ahead. It ticks a number of boxes for us, key anniversary helps integration, we know that it fits our audiences because the works been done on the M33 project so that's the kind of process, it starts as an internal conversation and then it spreads outwards there.

**Who do you need to negotiate with?**

It's quite a small project. About 45,000 pound project, so it's relatively small. We don't sort of have outdoor focus groups for that kind of thing, the stake holders are purely internal so the collections people there, the first ones to go to really and say: Can we deliver this? Have we got the content for this? Have we got the collections to support it? That's the first thing we did. The education colleagues who need to be sure that's it's something they can tie to their programmes that it has some links, though they can work sessions around it, or it might not support a family audience. Its not necessary crude to me if it isn't in the curriculum, we can do it but there needs to be some sort of learning outcome. And then having got those two key internal stakeholders, the marketing colleagues have to come in - Can you sell this? Can you persuade people to come to this? And ultimately having got all those ducks

in a row you would go to the senior management, to the director general basically to sign off.

**And was that externally funded?**

That's internally funded from core funding. Slightly different in the gallery it appears as its an off shoot of the new permanent RNM galleries and part of the agreement with the Heritage Lottery Fund from the beginning, that there would be a rolling cycle of exhibitions in this space. So it fulfilled that requirement. That kind of leads me on to your question about who are the stakeholders. You have to go to the bigger the project the more there are. And clearly RNM which was a multi million pound gallery development project, the number of stakeholders were far bigger and went far outside the museum, including the Heritage Lottery Funders themselves, the local community, lot of outreach work, long before the gallery was even in development. A big animal like that requires a lot more people.

**In terms of when you move on into production, who are you recruiting at that point? Are you recruiting suppliers? Lots of people internally?**

It varies with the institutions I've been with. So with the Imperial War Museum they had an in house design team. RNM doesn't have an in house design team, so in the case of RNM we are going out for graphic designers for the Gallipoli exhibition; we need an AV designer for the Gallipoli exhibition. We have our own internal build capability, so we will build the structure ourselves. And actually the specific gallery we are using is designed to be recycled so the fabric is there, but you know the bigger the project the more externals we would bring in. So specialists in interactive if we were bringing them into the gallery, we would be going out for that thing as well. Sometimes in the bigger projects you tender the overall exhibition design team and they would simply raise their own sub contracts. So they will find someone to

do the AV design so we don't have to worry about it.

**And within the organization - say for content or something like that, do you recruit people in?**

No. Content rests with me and in other exhibitions it would rest with people who are charged with developing the exhibition. I would be looking to colleges for collections material in particular to identify things. In the case of that particular exhibition we are trying to make it a collaborate effort and very keen for the RNM to feel a sense of ownership for the Royal Marines stories and we will probably involve them quite a lot.

**And then when you've got all your team as it were on board and things start rolling, do you find the direction changes much?**

Yeah. Most inevitability in any given exhibition project, the direction will change. The overall narrative doesn't tend to, but how your deliver that narrative can change. And it can be for a whole load of reasons - you can have things like good ideas on paper but when you are trying it practically they don't work or their unaffordable, or there just simply not doing the task your expecting them to do. So yeah inevitably they change direction, especially when we don't have an in house design team and designers on site. They're inevitably going to say 'you know maybe you had a nice idea about moving people around a particular way, but that's not going to work'.

**And so the narrative remains largely unchanged?**

The core narrative remains unchanged, but how bits of that narrative are delivered and they may well change and in fact more often does than doesn't.

**And so you've had involvement with other media productions. Can you**

## **describe them?**

Yeah. So I've done freelance broadcast work. Mostly for television for the last seven or eight years and I've also published twice, books and a number of articles. So there's a kind of different ways of doing things and interestingly, although they were published separately a lot of the broadcast work has a lot of the same skill set as exhibition design. And I think that's one of the main reasons why I like it. Actually you're trying to reach out to audiences, not necessary your core audience, your not going out to the specialists, you're trying to interest other people who may not be interested at all. And the way you create a piece of broadcasting media is very similar to creating an exhibition. You're finding the right element to tell a particular part of a story and your trying to do it in a relatively short space of words and time, and your trying not to overwhelm your audiences with information. All those things are the same as exhibition techniques. So a lot of the work I've done for TV has been for the BBC's Coast programme and Coast first of all its a landscape show, its an outdoor show. So in the case of that one your building blocks to create 5, 6, 7 minutes or how many your doing. Your outdoor location is a building block to tell that story and if you haven't got a good outdoor location that's either scenically beautiful or has some legacy of the kind of thing your talking about then the things a no go. You can't film the piece because that's the heart of what that programmes about. But then you can use props. We did a piece on the Channel Dash which was three German battleships that went through the Strait of Dover in the Second World War. And the location was there, the Strait of Dover. Its fantastic, but then we had some models - we played around with some models to show the ships made their trip from the French Coast right through to Germany. We played around with CGI. So we CGI'd the three enormous ships going though the Strait of Dover to show them. I mean they were clearly visible from the Dover side, they had a good view of the ships. I was a contributor on that one, so I was providing information

to the presenter who was Neil Oliver, but then I also went and spoke to a German veteran who adds his voice, another element to the story. So it's the same principle. It's about what's the best, exciting and engaging way of presenting a particularly small bit of any given narrative.

### **And does the narrative there remain consistent? Or does that modify?**

There's a little bit more because the filming's done on a tight budget and it's so expensive. We don't tend to get things made up on the day, but there are a lot of changes that will go on during the process that leads up to the shoot. And then there are more changes that go on afterwards in postproduction. So you find that I mean the way I got involved with them was throwing stories at them. You throw the initial story, some of them they catch some of them they drop. They aren't always interested. But then you find that maybe later they have assigned a researcher to a story and I have a huge amount of respect for people who work in TV. These people are so well informed often more informed than you are about the story you pitched them in the first place. And then they will come back and say this is the kind of line we are looking at, this is how the story will structure, this is how it will shape, you know we've gone and found a veteran. And you work with them to build the story over the next month or so then you do the shoot. And the shoot is complete. You know the shooting script and you've got a day, maybe a day and a half if you're lucky with a very expensive cameraman and a sound person and a director on site and that doesn't change. You do what you got to do and you stick to it. But in postproduction you find there are changes there. You know we add the voice-overs in afterwards that can change, what information is used in voiceover to support the given film. Archive film gets added in, so you get changes again, and the end of the finished product very rarely resembles what you think it's going to be once you've finished shooting.

**So if you were comparing the museum experience to the TV experience, would you say that the original concept in museums remains intact more often?**

No. I think it's exactly the same actually. The concepts remain exactly the same. There are changes to how that narrative is delivered the only difference in TV is that they don't happen on the day of shooting, which to be fair is the equivalent of you don't make changes to the exhibition the week your installing it. You make those changes beforehand so there actually very very similar products in many ways. TV is tighter, it's more expensive, it's shorter in space of time to tell its story.

**And with TV are you finding that your generally working with a team that already exists or is that assembled in the same kind of way?**

More often than not with Coast its assembled, and a lot of people you find yourself working with are freelancers that have brought in. And then they go at the end of it. But having said that it's a ten-year-old series now. The same people coming back year on year and then they go off and do other things. I don't think I've ever worked with any, I've had the same director for two shoots out of I think I've done nine, but most of the time it's completely different. I've never had the same cameraman or soundman again.

**And is there a sort of practice or approach or things that you've done in your own work that you've brought back from that TV experience, back to your museological approach?**

No the other way actually. I think it's the fact that the museum work I've done helps me to not just be confident in delivering info for television, but also having a lot of sympathy for people who are involved with it. And I think where people in my



profession fall down a lot is where they are insanely impatient with TV. They get frustrated, they get irritated, they don't understand why they are having to repeat the same sentence 5 times from 6 different camera angles. And I've watched like professional presenters now for years and I've worked with them, and they are just you know, amazing they know exactly when to sit in a corner and be quiet, and they are always there when they need to be called on and I've had to learn from that. But yes, I think the sense of making a narrative tight and using different forms of media to tell a narrative is what I've brought from museums that's helped me with TV.

### **And your experience with publishing?**

So publishing's a wholly different beast entirely. Because in fact it's the dynamic opposite. One of the rules for museums for exhibitions is not to build a book on the wall as in if you were writing a book. And actually the adjustment can be quite difficult. In the other way you know it's that sense that you have to be quite rigorous. You have to cut things. You can't do that in an exhibition space. Nobody expects you to do it. It's kind of a skill I had to re-learn because when I went from Academia from a masters student into exhibitions, I was gently told: 'no you can't reference' and 'you've only got 250 words to tell your story' that you may have made a 100000 word essay on so you spend 10 years doing that, then you kind of go back and publishing a book. You realize that you have an entire chapter to do with this and everything needs to be referenced, everything needs to fit in there. A completely different skill set and I think it's more common the other way. People fall down when they make the transition, is people have a lengthy and successful career in publishing books think they can go and do exhibitions, and actually they can't because it just involves tearing up the rule book as far as literally publishing is concerned, to go and do an exhibition. I loved it. It's very different. There's a luxury of time and words that I just don't have in a gallery.

**In terms of publishing, what kind of team were you engaged with then?**

A far far smaller team. I mean I've published for quite a small publishing house. Basically there's an editor assigned to you so you produce a proposal. The proposal goes to the editor. It then gets kicked around the organization, and you don't know who its being shown to, but presumably there's a commissioning editor, that kind of thing. And then they give it the go ahead. They usually ask for a sample chapter if your writing for them the first time and then you really only deal with that individual throughout the process. Somebody else will tend to come along and get as far as designing covers so you get some sort of designer - usually a freelancer who will come back to you and say this is our cover layer with the text on the back, are you happy with your author bio? All that kind of thing. And it's the only time you have anything to do with them. You get involved again with a different person, there will be a picture editor if your putting photographs in the book. So you will work with them usually only a few days, you know you have a delivery date for the photographs, your given the photographs you have a conversation about the photographs. And you never have to deal with them again. And then at the end of the process you work very closely with a proofreader or another editor proofreader/ editor who will go through your text with a fine toothcomb. They are very variable. The first book I wrote I had almost no feedback which was entirely useless, whereas the woman who did my second book was fantastic. I had a really really good dynamic relationship with her, she was questioning what I'd written and asking me if I could understand it, would the reader understand it? And that kind of thing, it was really creative actually I like it. The difference is your not presented with an entire team at the beginning, and that's the team you're working for your only really working with one or two individuals. It's a very solitary process actually.

**And did you see spreads? Did you get to see the design?**

Yeah. The publishing house I work for, you get the spreads. So you submit a final copy as a word document, there's a house style you know pages and pages of house style, what font your supposed to use, what font size, how you punctuate, how do you do ship names, that kind of stuff. You submit that. That's usually proof read and that goes back and then you get a final proof copy and the layouts have all been done, which is your opportunity to look for anything they may have stuffed up in the transition process. And that's also where you index. I've always done my own indexing partly because my publicists won't pay for it, partly because one of the things I hate more than anything is reading a book that's been badly indexed. So then you can go through and that's just such a torturous process, there's no electronic way of doing it. You just go through and write down things and highlight the pages as they appear. That's the last bit of the process that goes in. That's pretty much it.

**Thinking again of the museum process, is there the same kind of quality control process?**

Obviously you're more on the end of being the editor at that point, but yes you will usually get the proofs back and the graphic panels in the exhibition in advance enough to make changes if necessary. And I tend to try and get somebody else involved, somebody who's not involved with the exhibition at that point to proof read it for me. Because it's usually the case that I've read it 5 or 6 times and simply won't see things but it's very similar in that once the graphics have gone to press you're pretty much in last chance saloon as far as making changes are concerned.

**So is there the same kind of house style?**

There is house style always. Sometimes different but the Natural History Museum

has a house style, The Royal Navy Museum has a house style, the Imperial war Museum has a house style. Generally museum exhibition text shares a lot in common with newspapers. So the theory is you will have a headline and for those museum visitors who are real lay flies in theory, should be able to go around the museum and just read the headlines and get a sense of what the stories supposed to be about. And then you have a kind of mainline text with an introductory paragraph which again is a layer that you should be able to read in isolation as you go around. And then you have main body of the text which is for people like me who read everything in the gallery. RNM has the same style, it's pretty much the standard benchmark for museum practice. There was a lot of work done years ago actually by the Museum Association: Museum Libraries and Archives Commission on good museum practice and that kind of thing came out of there and is pretty much the kind of standard.

## Appendix 2

### Ethics forms

## Copy of consent form

### Research Consent form

I agree to take part in the Museums as Media Producers case study which is research towards a PhD by Peter Annhernu at the University of Leicester.

I have had the project explained to me and I have read the Information sheet about the project which I may keep for my records.

I understand that this project will be carried out in accordance with the University of Leicester's Code of Research Ethics which can be viewed at <http://www2.le.ac.uk/institution/committees/research-ethics/code-of-practice>

Material I provide as part of this study will be treated as confidential and securely stored in accordance with the Data Protection Act 1998.

|  |     |                          |    |                          |
|--|-----|--------------------------|----|--------------------------|
| I have read and I understand the information sheet | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
|--|-----|--------------------------|----|--------------------------|

|  |     |                          |    |                          |
|--|-----|--------------------------|----|--------------------------|
| I have been given the opportunity to ask questions about the project and they were answered to my satisfaction | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
|--|-----|--------------------------|----|--------------------------|

|   |     |                          |    |                          |
|---|-----|--------------------------|----|--------------------------|
| I understand that I can withdraw from the study at any time | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
|---|-----|--------------------------|----|--------------------------|

|  |     |                          |    |                          |
|--|-----|--------------------------|----|--------------------------|
| I agree to the interview being recorded and my words being used in a student assignment only | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
|--|-----|--------------------------|----|--------------------------|

|  |     |                          |    |                          |
|--|-----|--------------------------|----|--------------------------|
| I give permission for my real name and institutional affiliation to be used in connection with any words I have said or information I have passed on | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
|--|-----|--------------------------|----|--------------------------|

|  |     |                          |    |                          |
|--|-----|--------------------------|----|--------------------------|
| I request that my real name be used in connection with any information I have provided or comments I have made | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
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|  |     |                          |    |                          |
|--|-----|--------------------------|----|--------------------------|
| I request that my comments are presented anonymously but give permission to connect my institutional affiliation with my comments (but not the title of my position) | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
|--|-----|--------------------------|----|--------------------------|

|  |     |                          |    |                          |
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| I request that my comments are presented anonymously with no mention of my institutional affiliation | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
|--|-----|--------------------------|----|--------------------------|

Name [PRINT] .....

Signature .....

Date .....

## Copy of Information Sheet

### Research Information sheet

This document sets out information about the case studies being researched for a PhD by Peter Annhernu at the University of Leicester.

Title: The Museum as Media Producer

Subtitle: How does technological convergence in the production and consumption of media change the museum?

This research considers the extent to which museums act as publishers, broadcasters and other media producers and how technological convergence has affected or influenced their activities.

The project focuses on the networks of producers, suppliers, museum personnel and audience members and how they might co-produce the media produced by memory institutions and what happens to notions of narrative, authorship and ownership in the process.

Case studies will be chosen to provide a representative sample of museum types who have media production project examples. At each institution the fieldwork will involve interviews with one to three members of staff. Each interview will follow a semi-structured approach, and will last between one and two hours. Each participant may be interviewed twice during the fieldwork phase. Prior to the interview, all interviewees will be provided with an outline of the questions to be explored. There will be two main categories of questions: the first largely factual and relating to points of information on the projects under study; the second related to the interviewee's perception of the roles project contributors have undertaken within each of the projects and the flow of work. All interviews will be conducted face-to-face at the participant's place of work. Participants will also provide informed written consent (using a standard form) indicating where necessary their preferences over anonymity and right to review.

Participants may know me from my work as director of Surface Impression Ltd, a digital design company that specialises in work for cultural sector clients. Although the case study may have a connection with work undertaken by Surface Impression for your museum, I am undertaking this research as an individual PhD candidate. If participants have any concerns about the overlap between my working relationship and this PhD research, they are encouraged to raise these with me at any point. Participants will have the opportunity to review the text of the thesis relating to this aspect.

Additionally I will gather documentation related to current and past media productions (in particular: functional specifications, project meeting minutes, evaluation reports, funding bids and press releases). Many of these documents are already in the public domain but written permission will be sought from each institution for their use of any internal or unpublished documents. In each case the

participating museum will have the opportunity to review the text of the thesis relating to any supplied documents.

Contact details:

Peter Annhernu

[REDACTED]  
[REDACTED]  
[REDACTED]@leicester.ac.uk

## Text of ethical clearance application form

Ethics form

**Project title:**

THE MUSEUM AS MEDIA PRODUCER

**Statement of research purpose:**

How does technological convergence in the production and consumption of media change the museum?

**Project aims / research questions:**

This research considers the extent to which museums act as publishers, broadcasters and other media producers and how technological convergence has affected or influenced their activities.

The project focuses on the networks of producers, suppliers, museum personnel and audience members and how they might co-produce the media produced by memory institutions and what happens to notions of narrative, authorship and ownership in the process.

**Proposed methods:**

I propose to undertake a pilot study of a project at a museum, using interviews with the principle actors as a source of data along with project documents such as specifications, meeting minutes, funding bids and press releases. The methodology is qualitative, using the tenets of Actor-Network Theory to map the network of contributors to the museum's media products. Once the pilot study has been reviewed, I will refine the methodology and then use it for 3 – 4 further studies of museum media projects.

**Method of recruiting research participants:**

I will use the contacts in the museum sector that I have made over the years as director of Surface Impression Ltd, a specialist provider of digital media development and consultancy for museums, arts organisations and education. Recommendations for more appropriate subjects to interview will be followed up if suggested by my primary contacts.

**Criteria for selecting research participants:**

The participants will need to have been a significant contributor, or manager of contributors, in a media project produced by the museum.



**Estimated start date:**

Dec 2013

**Estimated end date:**

Sep 2014

**Will the study involve recruitment of participants from outside of the UK.**

No

**Estimated number of participants:**

8 – 12 (pilot study and subsequent studies)

**Applicant details**

**Your name:**

Peter Annhernu

**Your status:**

Postgraduate research

**Your department:**

Museum Studies

**Your contact addresses:**

[REDACTED]

**Your telephone numbers**

[REDACTED]

**Other applicant details:**

n/a

**Course & department details**

**Module name and number or MA/MPhil/PhD course and department:**

Phd Museum Studies (D/L)

**Module leaders name:**

**Authorisers/Supervisors Email address:**

[rdp5@le.ac.uk](mailto:rdp5@le.ac.uk)

**Contact addresses:****All research applicants:****Please outline whether or not your research raises any particular ethical issues and how you plan to address these issues:**

As I have previously acted as a supplier to any of the subject organisations, and may be re-engaged or currently engaged as a supplier with them, there will have to be some sensitivity around commercially sensitive information or conflict of interest. To try and minimize this, the studies will be of completed projects, that no longer are subject to development contracts and the Participant Information form will have information about what information is being sought, how it will be used and the participants rights to request redaction of information if it is deemed sensitive.

**Are you using and Participant Information and Informed Consent form?**

Yes

**Have you considered the risk to yourself, to the associated researchers and, to the research participants?**

Yes

**Research Ethics checklist**

- |   |    |
|---|----|
| 1) Does the study involve participants who are particularly vulnerable or unable to give informed consent? (e.g. children, people with learning disabilities, your own students)                                      | No |
| 2) Will the study require the co-operation of a gatekeeper for initial access to the groups or individuals to be recruited? (e.g. students at school, members of self-help group, residents of nursing home)          | No |
| 3) Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g. covert observation of people in non-public places)  | No |
| 4) Will the study involve discussion of sensitive topics (e.g. sexual activity, drug use)?  | No |
| 5) Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind? | No |
| 6) Will blood or tissue samples be obtained from participants?  | No |
| 7) Is pain or more than mild discomfort likely to result from the study?  | No |
| 8) Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?   | No |
| 9) Will the study involve prolonged or repetitive testing?  | No |
| 10) Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?   | No |
| 11) Will the study involve recruitment of patients or staff through the NHS?  | No |

- |   |     |
|---|-----|
| 12) Does this research entail beyond minimal risk of disturbance to the environment? If yes, please explain how you will minimise this risk under panel 4 above | No  |
| 13) Have you gained the appropriate permissions to carry out this research (to obtain data, access to sites etc?)   | Yes |
| 14) Measures have been taken to ensure confidentiality, privacy and data protection where appropriate.  | Yes |

I have read the University of Leicester Code of Research Ethics  
Yes

The information in the form is accurate to the best of my knowledge and belief and I take full responsibility for it.  
Yes

I understand that all conditions apply to co-applicants and researchers involved in the study, and it is my responsibility to ensure they abide by them.  
Yes

## Permission for use of documents (Brighton Museum)

From: **Helen Mears** [REDACTED]  
Subject: World Stories gallery redevelopment materials  
Date: May 26, 2017 at 04:23  
To: Peter Pavement [REDACTED]



Dear Peter,

This is to confirm consent, on behalf of Royal Pavilion & Museum, Brighton & Hove, for you to draw upon the following materials in the course of your doctoral research. This consent is given with the understanding that the names (and identifying details) of any specific individual which feature in the below show be redacted unless they have given their consent on an individual basis.

Stories of the World\_Mobile Technology Research Report.pdf  
Redman's designs (outline, scheme and detailed)  
Evaluation reports (work with young people, visitor experience, organizational change)  
Project meeting minutes  
Tender docs for gallery design company (brief, ITT)  
Workshops with metaphor

Best wishes,  
Helen Mears.

Helen Mears  
Keeper of World Art | Royal Pavilion & Museums  
Lecturer | University of Brighton  
c/o 4-5 Pavilion Buildings, Brighton BN1 1EE  
[REDACTED]

**Notice to recipient:**

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Please consider the environment, only print out this email if absolutely necessary.  
Please Note: Both incoming and outgoing Emails may be monitored and/or recorded in line with current legislation

## University of Leicester ethical approval notice



To: **PETER ANNHERNU**

Subject: Ethical Application Ref: **pma11-d5bce**

*(Please quote this ref on all correspondence)*

---

**16/03/2014 22:11:18**

### **Museum Studies**

Project title: **The Museum as Media Producer**

Thank you for submitting your application which has been considered.

This study has been given ethical approval, subject to any conditions quoted in the attached notes.

Any significant departure from the programme of research as outlined in the application for research ethics approval (such as changes in methodological approach, large delays in commencement of research, additional forms of data collection or major expansions in sample size) must be reported to your Departmental Research Ethics Officer.

Approval is given on the understanding that the University Research Ethics Code of Practice and other research ethics guidelines and protocols will be compiled with

- <http://www2.le.ac.uk/institution/committees/research-ethics/code-of-practice>
- <http://www.le.ac.uk/safety/>

## Appendix 3

### ANT analysis working documents

# Cooper Hewitt Museum

| Problemetisation  | Interessement   | Enrolment   | Mobilisation  | Counter programme   |
|---|---|---|---|---|
| <i>Defines which other actants have interests that are consistent with the actor who is the focal node of the programme</i> | <i>A series of processes by which actors are placed into the roles that are proposed for them in the programme</i>  | <i>The further embedding and cross-linking of actants in the network via negotiations</i>   | <i>A set of methods used to put the recruited actants to use in the programme</i>   | <i>Actions that work against the programme of the project or network</i>  |
| <p><b>Cooper Hewitt Museum.</b> Founded by Sarah and Eleanor Hewitt, 1897. Part of Smithsonian Institution</p>              | <p><b>Mission:</b> "Founded in 1897, Cooper Hewitt is the only museum in the nation devoted exclusively to historic and contemporary design. The museum educates, inspires and empowers people through design, presenting compelling educational programs, exhibitions and publications." [6]</p> | <p><b>Vision:</b> "Sarah and Eleanor Hewitt, who intended it as "a practical working laboratory," where students and designers could be inspired by actual objects. Their 1897 vision of a museum and collection "for anyone who wanted to use it as a place to work and learn" seems radical, even by today's standards "[5] "International in scope and possessing one of the most diverse and comprehensive collections of design works in existence, the museum's rich holdings range from Egypt's Late Period/New Kingdom (1100 B.C.) to the present day and total more than 200,000 objects." [6]</p> | <p><b>Becomes part of Smithsonian Institution:</b> "In 1967, the Smithsonian Institution acquired the collection, on the condition that it remain in New York, and renamed it the Cooper-Hewitt Museum of Design." [9] ... <b>Establishes venue:</b> "the steel baron Andrew Carnegie's 1902 mansion was available. Taking up the whole block of Fifth Avenue between East 90th and East 91st streets, with a wide terrace and deep garden surrounded by a wrought-iron fence, the estate seemed well suited to housing a collection of decorative arts, and, in 1972, it was given to the Smithsonian by the Carnegie corporation. The Cooper-Hewitt Museum of Design opened its doors in 1976" [9] <b>Redevelopment:</b> "it [redevelopment] has guided the transformation of Cooper Hewitt into a design museum for the 21st century." [5]</p> | <p><b>Lack of human resources:</b> I mean the museum as a whole is only 70 people, so it's a small museum, it's not a tiny museum, it's not a big museum, it's got a lot of stuff. It's understaffed. I think it's understaffed by about 40 and the museum it had to know it, I don't think it had an understanding of just how understaffed it was [2]</p> |

| Problemetisation                                    | Interessement  | Enrolment   | Mobilisation  | Counter programme  |
|---|--|---|---|--|
| Smithsonian plans for the Cooper Hewitt             | <p><b>Search for Director:</b> “Richard Kurin, the Smithsonian’s undersecretary for history, art, and culture, who led the search committee for the Cooper-Hewitt’s new director.” [9]</p>   | <p><b>Reach of the museum termed as media:</b> “Museums originally were founded as 19th-century institutions. Well, now we exist in a different kind of world. A hundred-thousand people came to an exhibit? Well, a hundred-thousand people watching a TV program is very little. A hundred-thousand people watching a YouTube video is puny! And so I think the idea is, How do we take the stuff of the museum, the visceral experience of the object, and somehow translate that to other forms of media? We haven’t figured that out yet. If anyone can do it, I think it’s Bill Moggridge.” [9]</p>   | <p><b>Reframing of goals for the museum:</b> “It would be hard enough[b] to try to create a new museum for the 21st century from scratch. But the expectations for the Cooper-Hewitt are even more daunting. After decades spent curating treasures and artifacts, the aim now is to command a much more assertive role—to completely own and articulate not just the history of design, and the narrative of design’s importance, but also the application of design as a tool for education and for business. To propose to do all this from within a Gilded Age mansion on the Upper East Side that has yet to shake off a reputation for fustiness might sound implausible. But what the Cooper-Hewitt’s most committed boosters want is nothing less than for the institution to become the voice of, and the voice for, design in the United States.” [9]</p> |  |
| <p><b>Bill Moggridge</b> [2] Director of Museum</p> | <p><b>Diversity of audiences:</b> “... the Cooper-Hewitt has yet to discover how to serve all of its core constituencies. On one side is a devoted local coterie that expects bread-and-butter shows on textiles and jewelry; on the other are designers across the country who know of the museum mainly because of its prestigious awards. And how to capture a larger share of the general-public audience, both in the hothouse environment of New York’s cultural scene and on the national stage?” [9]</p> | <p><b>Appointment of Bill Moggridge:</b> “To solve this dilemma, the Cooper-Hewitt hired a new director last year—a man who has no experience in running a museum. At the same time, he might be the only person who could—or would—undertake the redesign of an institution with such large ambitions and profound personality puzzles.” [9] “... the 68-year-old English industrial and interactive designer who designed the first laptop computer; cofounded the influential design and business-consulting company Ideo; won the Cooper-Hewitt’s National Design Award for Lifetime Achievement, in 2009; and is described nearly universally as one of the <i>design world’s iconic and elder states-</i></p> | <p><b>Design vision:</b> “Bill coming from idea and from being a professional designer for years there was a confidence that was a sensible thing.” [2]</p> <p><b>Early ideas:</b> “What does he imagine? The museum should address, he says, “the fact that everything is designed. We want to show people how it happens.” So he would like to see visitors have more hands-on experiences, where they will “learn by doing.” A pile of Lego bricks for aspiring architects, maybe, or computer stations where people can design something, print a 3-D photo, and take it home. A smell lab! And that’s just the beginning. “We create influence ha-</p>   | <p><b>Death of BM:</b> “Bill died in August 2012 suddenly” [2]</p> |



| Problemetisation         | Interessement   | Enrolment  | Mobilisation  | Counter programme |
|--------------------------|---|--|---|-------------------|
| Board & donors           |   | <p><b>Recognising what stakeholders want:</b><br/>           “We’re a boutique museum that will still cater to that specialized audience—but that’s just one part of it. Moggridge sees the strain of conservatism within some of the museum’s trustees and donors more sympathetically than you might expect. “They want the museum to do more of the same sort of thing it’s always done,” he says. “They’re contributing to the redesign program in order to continue with that. So then, by definition, they’re not so interested in the new goals, or the national thing, or the Smithsonian—but they’re not against it. It’s just that they don’t want to see anything sacrificed in terms of what’s currently happening.” [9]</p> |   |                   |
| Renovation programme [1] | <p><b>Funding:</b> “A major capital campaign with a target of \$54 million has raised all but the last \$1.9 million, and an additional \$7 million has been raised toward an endowment goal of \$10 million to cushion the modest existing endowment of \$11.5 million. (Of all the Smithsonian museums, the Cooper-Hewitt relies most heavily on private funding for its operating costs and exhibits.)” [9] <b>Coordinating of re-sources:</b> “Change in museums is hard — and when it is accelerated by the renovation of the museum it is even harder. It is a balancing act requiring careful shepherding and keeping a focus on the long term.” [1]</p> | <p><b>Managing risk vs innovation:</b> “The sense that we are ‘building something that hasn’t been built before’ brings out that inherent tension between risk and innovation.” [1]</p>  | <p><b>Importance of vision to mission:</b> “It has been rewarding to work with our Board and funders who really understand that a bold vision is one worth supporting – especially when it stands to create significant long term public value as well” [1]</p> |                   |

| <b>Problemetisation</b>   | <b>Interessement</b>   | <b>Enrolment</b>   | <b>Mobilisation</b>  | <b>Counter programme</b>   |
|---|--|--|--|--|
| <b>Seb Chan</b> [1] Museum professional with experience (and high profile) in digital media | <b>Reasons to hire Seb:</b> “I was hired by the museum to initiate and shepherd a digital transformation of the institution during this critical renovation and rebuilding moment” [1]   | <b>Trusted to manage others:</b> “Bill hired me and Bill became aware of my stuff and Bill found that I knew how creative teams should work and knew the best thing to do was to hire good people and get out of the way” [2]          | <b>Mobilizing many factors:</b> “much of my time is spent helping embed digital into the design, decision making, strategy and all the operations of the museum” [1]   |  |
| <b>Executive</b> (role in hierarchy of museum) [2]  |  | <b>Position in museum:</b> “I’ve sat on the museum executive now I was at the Power House so I was on the executive for four years, the last four years and I mean I’ve reported to the director now for the last eight years.” [2]    | <b>Need for executive powers:</b> “And I don’t think you can do it any other way. I mean for me to push through the amount of stuff you want to do you have to be able to say it’s my domain, you’ve hired me, trust me it will be fine and it’s my job in that role to build trust and to take the heat” [2]          | <b>Understanding of the role by others:</b> “that’s the job and I honestly don’t think enough people see the role like that, they don’t see that this is not a digital role anymore, it’s delivering the museum’s mission, it’s a senior role and you’re just responsible for it.” [2] |
| <b>Pentagram</b> , brand design consultants [2]   | <b>Brand network of signifiers</b> “And it isn’t only the museum’s physical limitations that get in the way. Even its own name is an obstacle. In 1994, it was renamed once more as Cooper-Hewitt, National Design Museum, Smithsonian Institution—commas and all. All of its materials use “Cooper-Hewitt, National Design Museum,” as well as the Smithsonian’s name and sun symbol. “It’s a branding issue,” says Michael Bierut, graphic designer, partner at Pentagram, and cofounder of the Design Observer website. Moggridge admits he’d like to just make the word “design” really big and shrink everything else.” [9] | <b>Negotiation of respect for skills:</b> “Pentagram would begrudgingly build that respect with us, they are not from the museum world so they are like who are these people? Why do they have these strong opinions about stuff?” [2] | <b>Acceptance of respect:</b> “[Pentagram thought] ‘They might be right, what do we do about that?’” ... “We built a mutual respect over time. I think having the in house expertise that was really like in the sector known, it can be a bit of a curse but if you can turn it around it can be really valuable” [2] |  |

| Problemetisation   | Interessement  | Enrolment  | Mobilisation   | Counter programme   |
|--|--|--|--|---|
| <p><b>Local Projects</b>, interactive media designers [1]</p>                | <p><b>Setting up an expectation of negotiation:</b> “We just made it clear that your working with us you’re not working with people that don’t know anything about this stuff. We’re gonna call bullshit on your stuff and we’re gonna be difficult and for the most part they will go ‘wow that’s awesome!’” [2]</p>  | <p><b>Validation of ideas:</b> “There was some tricky times where I mean there were some Local Projects things that we strongly disagreed with and fought to have them taken out and there were some stuff that we were like ‘that was a really good idea we got it wrong, you guys should totally build that.’” [2]</p>   |  | <p><b>Team member unconvinced about ability:</b> “he [Aaron Cope] was very critical about Local Projects technical capacity because he knew how hard this shit is and that was very good to have on the team, but that’s not cheap, I mean you know I’m not cheap, Aarons not cheap.” [2]</p> |
| <p><b>Sistell Networks</b> [2] Manufacturer of pen/wand digital hardware</p> | <p><b>Customising existing product:</b> “Sistellnetworks has participated in an international team to create a custom-designed hardware based on Sistellnetworks’s vWand for the Cooper Hewitt Smithsonian Design Museum in New York.” [6]</p>   | <p><b>Process mimics objects’ own process:</b> “GE and Sistellnetworks, working alongside Cooper Hewitt and Undercurrent, turned sketches into working prototypes. Sistellnetworks changed the way the vWand’s electronics operated, and then GE’s industrial design team designed a sleeker form for museum use. This collaborative industrial design process mirrors how designers solve real-world problems and the process that many of the objects in the museum’s collection have undergone.” [6]</p>  | <p><b>Pen (brokers between object, table, ticket and visitor):</b> “The Pen reads data from object labels throughout the museum. This data is stored in the Pen’s onboard memory, which can then be accessed at interactive tables located in the museum galleries. ... Each Pen is paired with the visitor’s ticket, allowing them to later log in to the online record that they created of their museum visit.” [6]</p> |   |
| <p><b>General Electric (GE)</b> [2] Industrial design team</p>               | <p><b>Attracting major industry:</b> “Of course, the Cooper-Hewitt already has one national platform to build upon that does not conflict with the Smithsonian. Casting itself as arbiter of the design industry with the launch of the National Design Awards, in 2000, was a coup. The awards have elevated the museum’s national profile and given it a significant amount of credibility in the industry. This, in turn, has attracted major business players to its board of trustees who bring with them significant corporate support that is enabling the museum to expand its ambitions.” [9]</p> | <p><b>GE and board:</b> “In a nonprofit arena, you may have a great idea, but how are we going to fund it?” says Beth Comstock, chief marketing officer of GE and president of the Cooper-Hewitt’s board. “That’s been an eye-opener for me. I think one of the things I’ve been able to bring as a perspective is, ‘Wow, that’s fundable,’ or ‘Someone would sponsor that.’” Comstock was brought to the board by Michael Francis, executive vice president and chief marketing officer for Target. In 2003, Target won the National Design Award for Corporate Achievement ... Francis is now vice president of the museum’s board of trustees.” [9]</p> |  |   |

| <b>Problematisation</b>                          | <b>Interessement</b>  | <b>Enrolment</b>   | <b>Mobilisation</b>   | <b>Counter programme</b>   |
|--|---|--|---|--|
| Diller Scofidio & Renfro, exhibit architects [1] |   | <b>Negotiation:</b> “constant dialogue” [1]  |   |  |
| <b>General Contractor</b> [not appointed] [2]    | <b>Making the case:</b> “I was pushing very hard for the museum to appoint a GC - a general contractor” [2] | <b>Role:</b> “who would manage the whole coordinate that so at arms length from the museum, and be sort of the owners representative or whatever or client representative” [2]   |   | <b>Rejection of SC’s goal:</b> “The museum decided not to do that for financial reasons but also for I think reasons of pride; just misplaced pride” [2] |
| “Digital” [1]                                    | <b>Excitement:</b> “every day tempting new opportunities and technologies to seize” [1]                     | <b>Confidence in abilities:</b> “I took all the interactive and digital stuff and I knew how to do all that stuff” [2]   | <b>Confidence in network management abilities:</b> “We had the internal capacity too so my team was full of people who were good at working with external people and we pushed everybody in different ways. And that was unique for museums I think and I haven’t seen anyone else in the museum world who has been able to push back on external agencies probably as much as we did.” [2] |  |
| “Contract” [2]                                   | <b>Framing of contract:</b> “for the interactive stuff we made it a co-design contract basically.” [2]      | <b>Reduction of contract procedure:</b> “contractually it was very much an internal it wasn’t an R F P and then an R F Q and a tender thing it was like no no no” [2]  |   |  |
| Team [2]   | <b>size of team:</b> “my team was only 5 people including me.” [2]  | <b>fun but in depth culture in team:</b> “I love the day-to-day work with my team – they’re all very talented and diverse individuals – and we have a very light-hearted office culture but with many deep intellectual discussions on a daily basis.” [1] | <b>Ability of team to deal with processes:</b> “I’m especially proud of the way my team have all, individually, seized the challenge of the transformation we’re undergoing. The sheer volume of ideas and, importantly, working prototypes to test those ideas that they are generating is amazing.” [1]   |  |

| Problemetisation   | Interessement   | Enrolment  | Mobilisation   | Counter programme |
|--|---|--|--|-------------------|
| <p>Aaron Cope “who was one of the engineers at flickr” [2]</p> | <p><b>First contact with Aaron:</b> “I had a vacancy for a developer and I actually reached out to Aaron and said look do you know anybody who I should hire” [2]</p> | <p><b>Conversion to job:</b> “And he’s like well maybe I’ll come and do it and I was like fuck yeah let’s do it. And Bill approved the salary that would attract him across because I explained to Bill - look Aaron is great and you know you want me to do great stuff, Aaron’s really great and we can do great stuff together.” [2]</p> <p><b>Aaron defines role:</b> “to figure what it means, in concrete terms, to make the museum well-and-truly part of the internet and the rest of the time is spent designing and building the systems to make that happen.” [8]</p> | <p><b>Motivation established:</b> “He’s like, ‘look Seb as long as I can ship code I’m happy and we can do some awesome stuff’” [2] ... “‘if I can’t shift and its got to go through weird approval processes fuck it’. And I said ‘no no your approval process is me, I’ll approve it’.” [2]</p> <p><b>Negotiating with machines and museum:</b> “That involves a healthy mix of data-wrangling, managing servers, writing code and designing the architecture and the user-facing aspects of the collections website as well as imagining novel ways for interacting with all the data we’ve collected.</p> <p>And finally working through the process of integrating it all with the building. By the time we re-open the building itself will be one of, if not the largest, consumer of the collections website.” [8]</p> |                   |
| <p>Katie [2]</p>   | <p><b>Internal transfer:</b> “I pulled in one AV producer ... who was with the education team previously.” [2]</p>  | <p><b>Development of skills:</b> “She was very green but she was very interested in human sense of design and really liked Bill and so I sort of steered her down a path, a UX path” [2]</p> <p>“I’m learning about the tools and techniques of information architecture and user interface design and applying that to what I do. My goal for 2013 is to learn front-end dev skills, so I can code up the graphics I design.” [7]</p>   | <p><b>Contribution to programme:</b> “[Katie] was very up for it and she was great and she did some great audience research with us and learnt a lot of stuff. And you know she didn’t do any code but she was very good at doing graphics and design and stuff and just help working with people and help them work through things.” [2]</p> <p>“The renovation means I’m working in a “what if” mindset as opposed to a “everything’s decided, let’s crank it out” mindset. This is a door and a challenge combined.” [7]</p>  |                   |

| <b>Problemetisation</b> | <b>Interessement</b>   | <b>Enrolment</b>  | <b>Mobilisation</b>   | <b>Counter programme</b>         |
|-------------------------|--|---|---|----------------------------------|
| Micah [2]               | "Micah was a contractor before I started" [2]  | "came on as staff as web master and he's been really great and leant a lot working with Aaron and working with me." [2] |   |                                  |
| Sam [2]                 |  | we hired Sam in the last year before we launched as a junior dev to be mentored by Aaron [2]                            |   |                                  |
| Sarah [2]               |  |   | "worked with us for a while who was a librarian and was really great at cleaning up metadata" [2]   |                                  |
| "Talent" [2]            | <b>Networking to find people:</b> "You know again it was about finding hires, and you know we used our networks to do that and then I guess once we started doing stuff, both Aaron and I and the rest of the team acted as talent magnets. I guess once you're doing stuff and people are well that's interesting, well come work with us." [2] | <b>Centrality of team:</b> "we acted as sort of a hub for people" [2]   | <b>Getting best effect from people:</b> "[it was a] skills exchange and we tried to make those things be as great for that person" [2] ... "if you've not gonna have enough staff, you gotta have really great people, you got to make them have a multiplier effect and let them loose I guess." [2] | "no one's got enough staff." [2] |
| Hannah Deloda [2]       | <b>Placement from Belgium:</b> "we had the Belgium government send us Hannah Deloda who was working in a House, Runa Lane it's a historic house I think in Ghent that does social history stuff." [2]  | <b>1 month placement:</b> "So Hannah was with us for a month" [2]   | <b>Product of placement:</b> "So Hannah actually made that UX video with Katie that one the demo of the pen." [2]   |                                  |
| Virginia Gale [2]       | <b>Placement from NZ:</b> "Virginia Gale was sent from the National Library of New Zealand" [2]  | <b>1 month placement:</b> "to spend a month with us" [2]  |   |                                  |

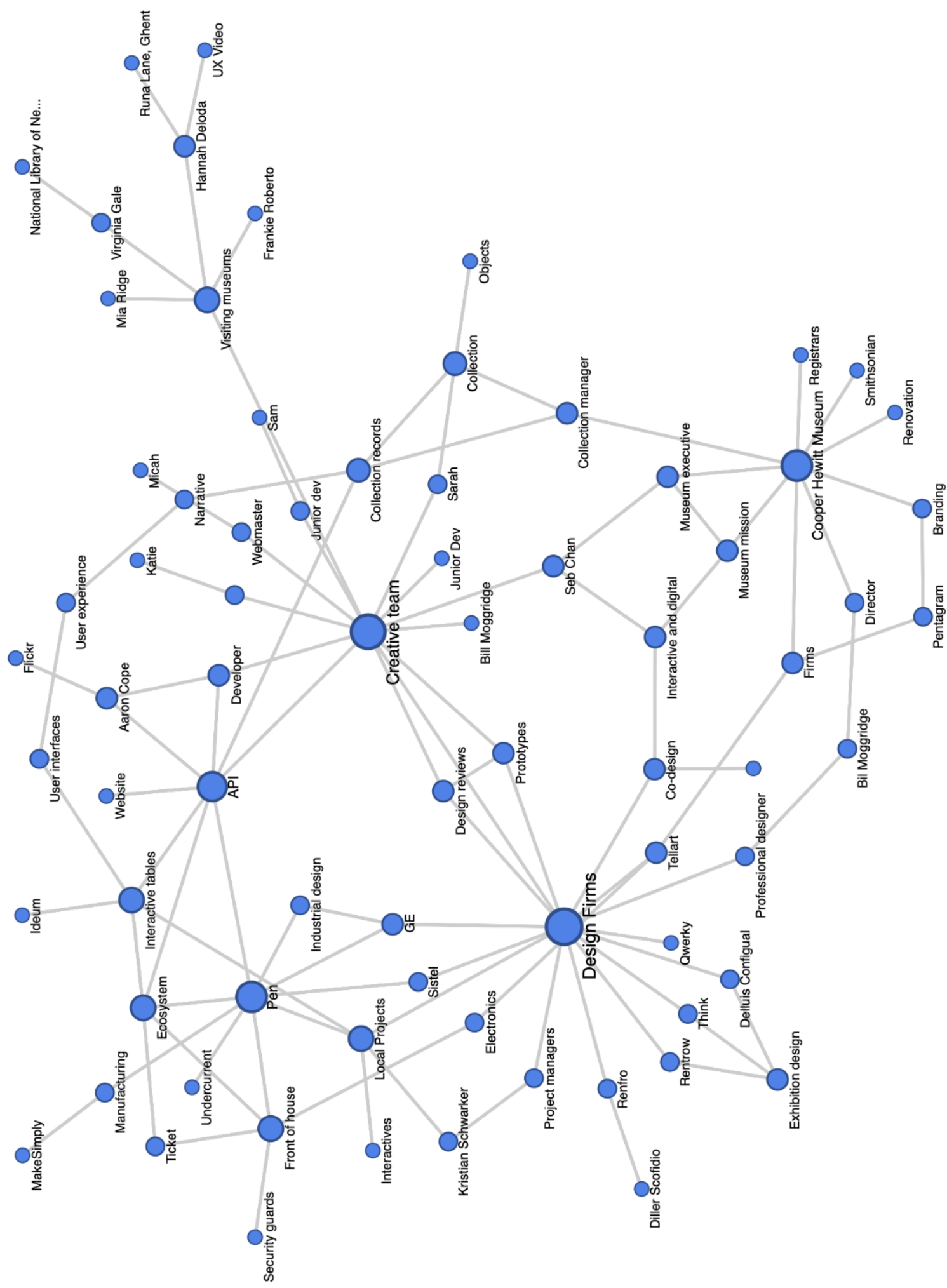
| <b>Problemetisation</b>  | <b>Interessement</b>  | <b>Enrolment</b>  | <b>Mobilisation</b>  | <b>Counter programme</b>   |
|--|---|---|--|--|
| <b>collections records</b> [2]   | <b>Advice on collections data sought:</b><br>“we had Mia Ridge come and spend a week with us. Frankie Roberto came through as well, a whole bunch of people came through and they’re like our collections data is really shit “ ...<br>“we’re got to do it there’s not enough staff to make it better, it is what it is.” [2] | <b>Technique to humanise collection data:</b><br>“Aaron basically just put joining words between everything, that’s all he did.” [2]  | <b>Eventual translation of collections content:</b> “all he did was put the joining words and the logic around doing that and it was clunky at first because sometimes the tenses were wrong and he hadn’t built the logic into the code to do that yet. But over time that evolved and what happened immediately was it immediately changed how it felt “ [2] | <b>Opposition:</b> “and immediately it pissed off a lot of the scholars” ... |
| Curators [2]   |   | <b>Curators acceptance of narrative records:</b><br>“the curators warmed up to it and you know what we did was take a collection that basically no one gave a shit about to one that people gave a shit about. But not the people who they thought would give a shit about it gave a shit about it so we had to change the language to make it accessible.” [2] | <b>Curators on side:</b> “the Curatorial departments, who I often find are the most-resistant to change in other cultural institutions, have been incredibly generous in their openness to the very significant changes to their work practices that have been coming at quite a pace as a direct result of this digital moment.” [1]                          |  |
| <b>Objects</b> [3] Items in the collection of the Cooper Hewitt and digital representations of those objects | <b>Bringing objects to the digital media:</b><br>“The Collection Browser is available on seven tables installed throughout all floors of the museum, giving you access to thousands of objects in the museum’s collection, including those currently on view in the galleries.” [3]   | <b>Interfaced by the touch tables:</b> “The largest tables allow up to six visitors to simultaneously explore high resolution images of collection objects, select items from the “object river” that flows down the center of each table, zoom in on object details, learn about its history, and related objects organized by design theme and motif” [3]     |  |  |

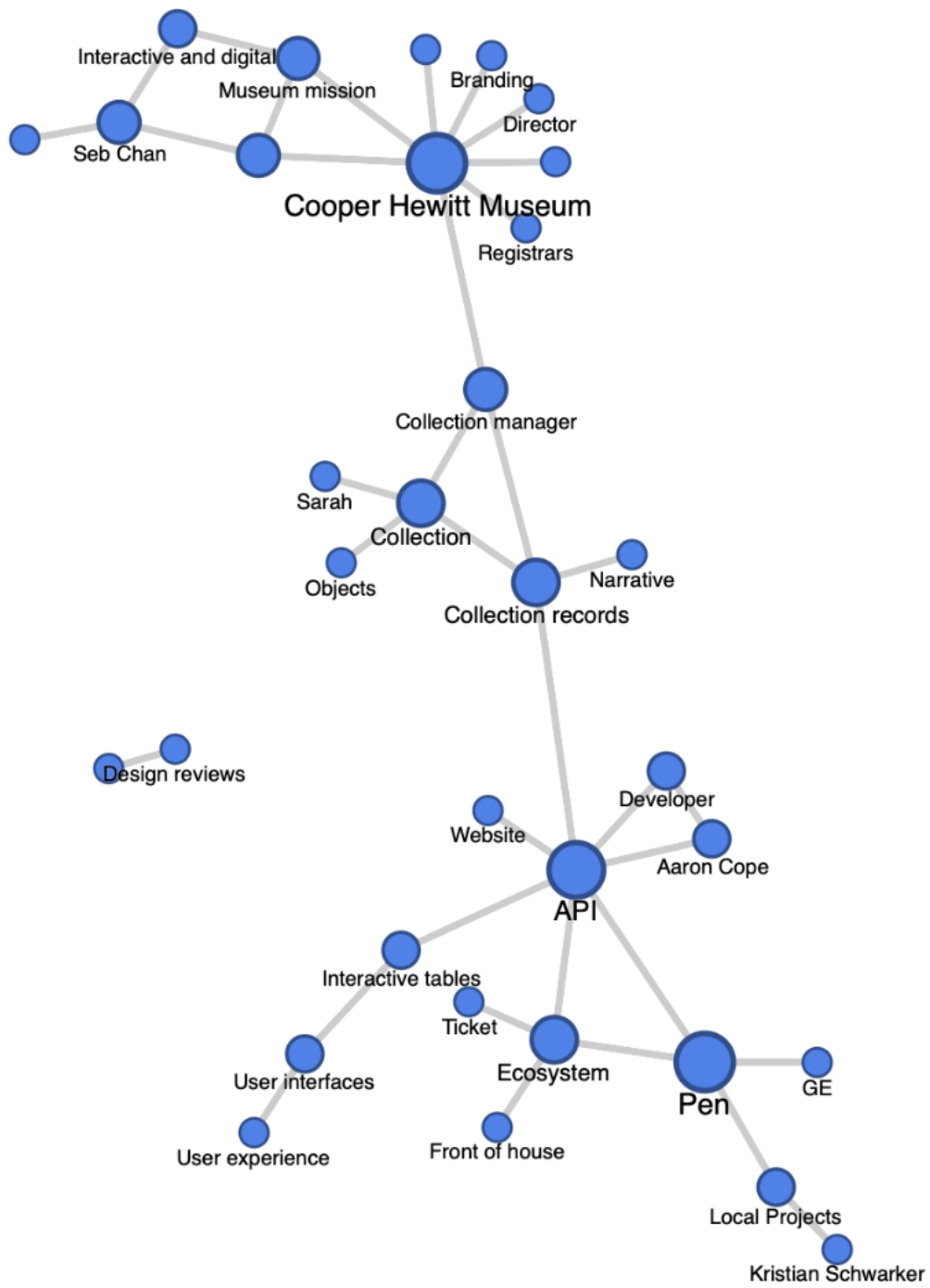
| <b>Problemetisation</b>   | <b>Interessement</b>   | <b>Enrolment</b>  | <b>Mobilisation</b>   | <b>Counter programme</b> |
|---|--|---|---|--------------------------|
| “interactive tables” [2] high resolution screens mounted onto podium. | <b>Argument over means to retrieve collected objects:</b> “Local Projects right up until two months before we launched wanted to have email address on the interactive tables. “ | <b>Purpose of tables in galleries:</b> “Using the large, ultra-high-definition screens on tables designed by Ideum, visitors may explore and manipulate the objects they have collected, discover related objects in Cooper Hewitt’s collection, retrieve contextual information, learn more about designers, design processes and materials, watch and share videos and even sketch their own designs.” [3]<br><b>Argument over means to retrieve collected objects continues:</b> “And I was like ‘No Jake I do not want that’. He’s like ‘no one will go look at their stuff if you don’t do it’. I’m like ‘no because email addresses on big interactive tables are a privacy thing and they suck’” [2] | <b>“Ecosystem” approach to means to retrieve collected objects:</b> “you [Local Projects] were responsible for the tables but we saw that the tables we’re part of a whole ecosystem and we gave a shit about the ecosystem. So we knew if you weren’t going to do it there we had to do something else, somewhere else and I think his thing was no other museum would have realized [that] they would have to take up that challenge and implement it somewhere else.” [2] (items collected by the Cooper Hewitt pen are linked to a code on the ticket, front of house staff point this out) |                          |
| <b>Ticket</b> , purchased by visitors                                 | <b>Involvement with front of house staff:</b> “work with the security guards and the front of house” [2]   | <b>Means to integrate Pen and Ticketing:</b> “and the scripting work ... that Katie did from my team .. not taking email addresses so you need be telling people to put their ticket in their hand bag “ [2]<br>“Meanwhile, Cooper Hewitt’s own digital team was working on integrating the Pen into the museum environment. Tellart, an experience design firm in Rhode Island, was engaged to create custom electronics to pair visitors’ tickets with their Pens, and the museum went through multiple rounds of testing with different approaches to the operational logistics.” [4]  | <b>Achievement of ecosystem:</b> “that’s ... the holistic design piece that I’m extremely interested in [that] we’re able to do” [2]  |                          |
| <b>Design reviews</b> with Local Projects [2]                         | <b>Frequency:</b> “They would present all the time to us, we’d go down, we would do reviews. “ [2]   | <b>Keeping reviews close to project team:</b> “we [would] go to their offices or they [would] come up to us and we would try to do the reviews with just my team if possible “ [2]  | <b>Reducing need for directorial sign off:</b> “we would only bring the director in for sign off periodically so we tried to limit exposure of unfinished prototypes and I had to be the chit umhrella I had to   |                          |



| Problemetisation  | Interessement  | Enrolment   | Mobilisation   | Counter programme |
|---|--|---|--|-------------------|
| API [2] Application Programming Interface, means for computer data to be exchanged between software | Team creates API: "Yeah we made the API so we did all that stuff in house, we did all that stuff in house" [2]   | Iterative / agile approach: "so we were continuously releasing, continuously making things." [2]  | Speed of implementation "Local Projects would say 'oh well we need this'. [We would] make it tomorrow to be there they'd be like 'holy shit how did you do that?'. Well that's why we did the API" [2]   |                   |
| "The Pen", tool used by visitors to collect objects and draw on touch tables                        | Role of pen in visit: "The new interactive Pen further enhances the your experience by letting you "collect" and "save" objects from around the galleries." [3]  | Getting visitors to act as designers: "Asked by Cooper Hewitt to come up with a visitor technology that emphasized play and spoke to the specificities of a design museum, the concept for the Pen originated from Local Projects working with Diller Scofidio + Renfro. The Pen was pitched as a way to invite visitors to learn about design by designing themselves. Beyond working as a tool for drawing, it would encourage visitors to engage with the works on view in the museum, rather than looking at them through the small screen of the more traditional approach of a 'museum App'." [4] | Hardware development process: "With the help of Undercurrent, Cooper Hewitt and subcontractors identified SisteInetworks' vWand, an inventory control device used in health care, as an existing product that met most of the technical requirements. To re-engineer the vWand. GE's industrial and interaction designers developed a sleek new form, while SisteInetworks extensively modified the internal circuits and electronics to support new functionality. Undercurrent and Make-Simply, a New York-based sourcing and manufacturing management company, converted GE's designs into prototypes, then took the final designs to their global partners for manufacturing." [4] |                   |
| "Immersion Room", display of wallpaper collection   | Purpose of display: "This new interactive space, formerly Margaret Carnegie's bedroom, offers a unique experience: the ability to view Cooper Hewitt's extraordinary collection of wallcoverings as never before." [5] | Interaction with visitors: "Using the Pen, you can select wallpapers from the Museum's permanent collection and see them projected on the walls from floor to ceiling—for a vibrant, impactful, immersive experience. You can even play designer by creating your own designs, or just stand back and watch as the wallpapers unfold across the room." [5]  | Visitor experience is more authentic: "More than just entertainment, the Immersion Room provides the first opportunity to discover Cooper Hewitt's wallcoverings as they were intended to be viewed." [5]  |                   |

| Problemetisation   | Interessement | Enrolment | Mobilisation | Counter programme |
|--|---------------|-----------|--------------|-------------------|
| <p>[1] Meet the Staff, Seb Chan <a href="http://www.cooperhewitt.org/2013/09/09/meet-the-staff-sebastian-chan/">http://www.cooperhewitt.org/2013/09/09/meet-the-staff-sebastian-chan/</a></p> <p>[2] Interview with me, Brighton</p> <p>[3] The new Cooper Hewitt Experience <a href="http://www.cooperhewitt.org/new-experience/">http://www.cooperhewitt.org/new-experience/</a></p> <p>[4] Designing the Pen <a href="http://www.cooperhewitt.org/new-experience/">http://www.cooperhewitt.org/new-experience/</a></p> <p>[5] Immersion Room <a href="http://www.cooperhewitt.org/events/current-exhibitions/immersion-nfc-cusom-products-cooper-hewitt-smithsonian-2013/01/09/meet-the-staff-katie-shelly/">http://www.cooperhewitt.org/events/current-exhibitions/immersion-nfc-cusom-products-cooper-hewitt-smithsonian-2013/01/09/meet-the-staff-katie-shelly/</a></p> <p>[6] NFC Cusom Products <a href="http://www.cooperhewitt.org/2013/04/03/meet-the-staff-aaron-straup-cope/">http://www.cooperhewitt.org/2013/04/03/meet-the-staff-aaron-straup-cope/</a></p> <p>[7] Meet the Staff, Katie Shelley</p> <p>[8] Meet the staff, Aaron Cope <a href="https://www.fastcompany.com/1777623/masters-of-design-2011/mister-moggridge-has-mad-ambition">https://www.fastcompany.com/1777623/masters-of-design-2011/mister-moggridge-has-mad-ambition</a></p> <p>[9] Mister Moggridge Has Mad Ambition <a href="http://smithsonian-webstrategy.wikispaces.com/Executive+Summary+and+Moving+Forward">http://smithsonian-webstrategy.wikispaces.com/Executive+Summary+and+Moving+Forward</a></p> <p>[10] Smithsonian Digital Strategy</p> |               |           |              |                   |

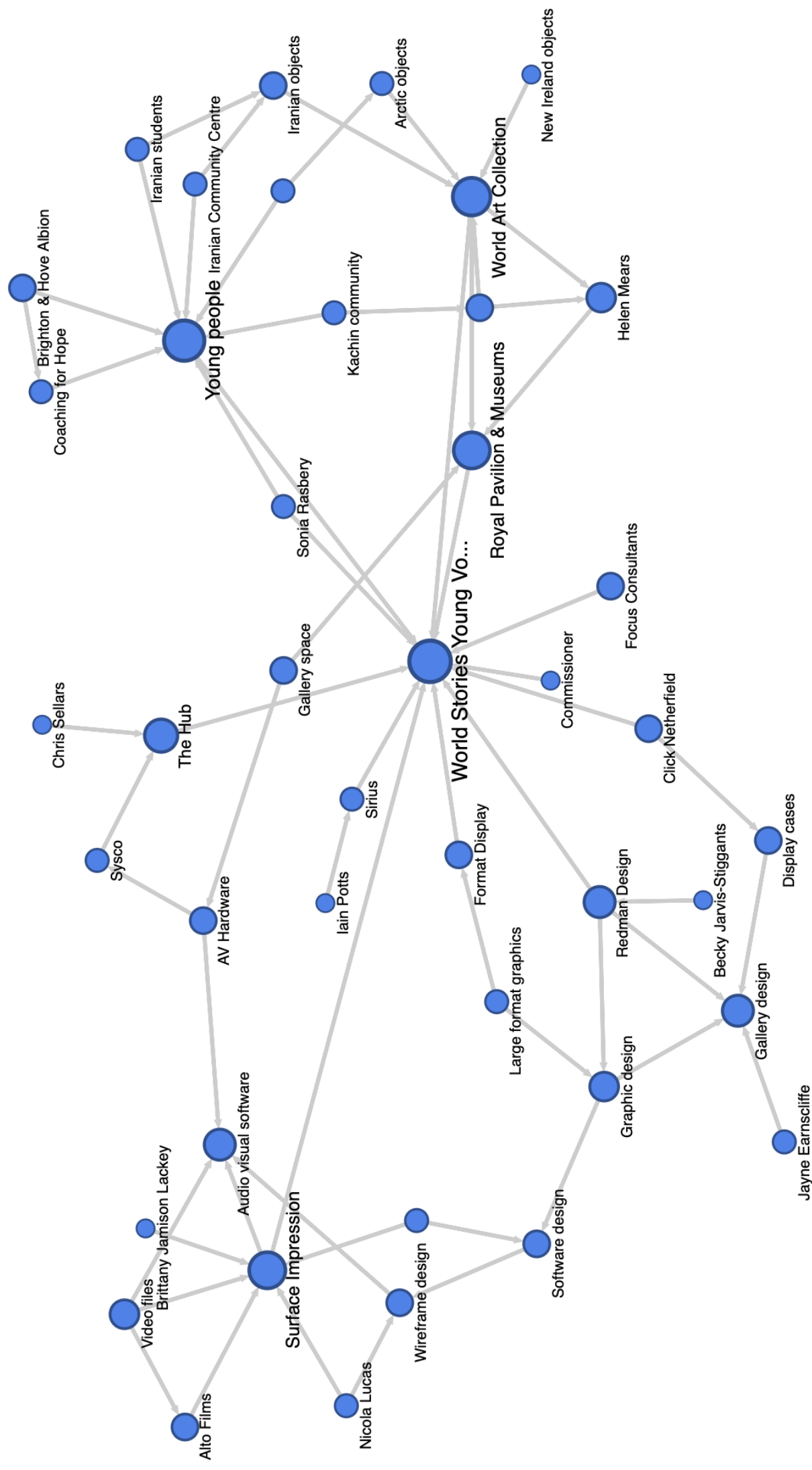


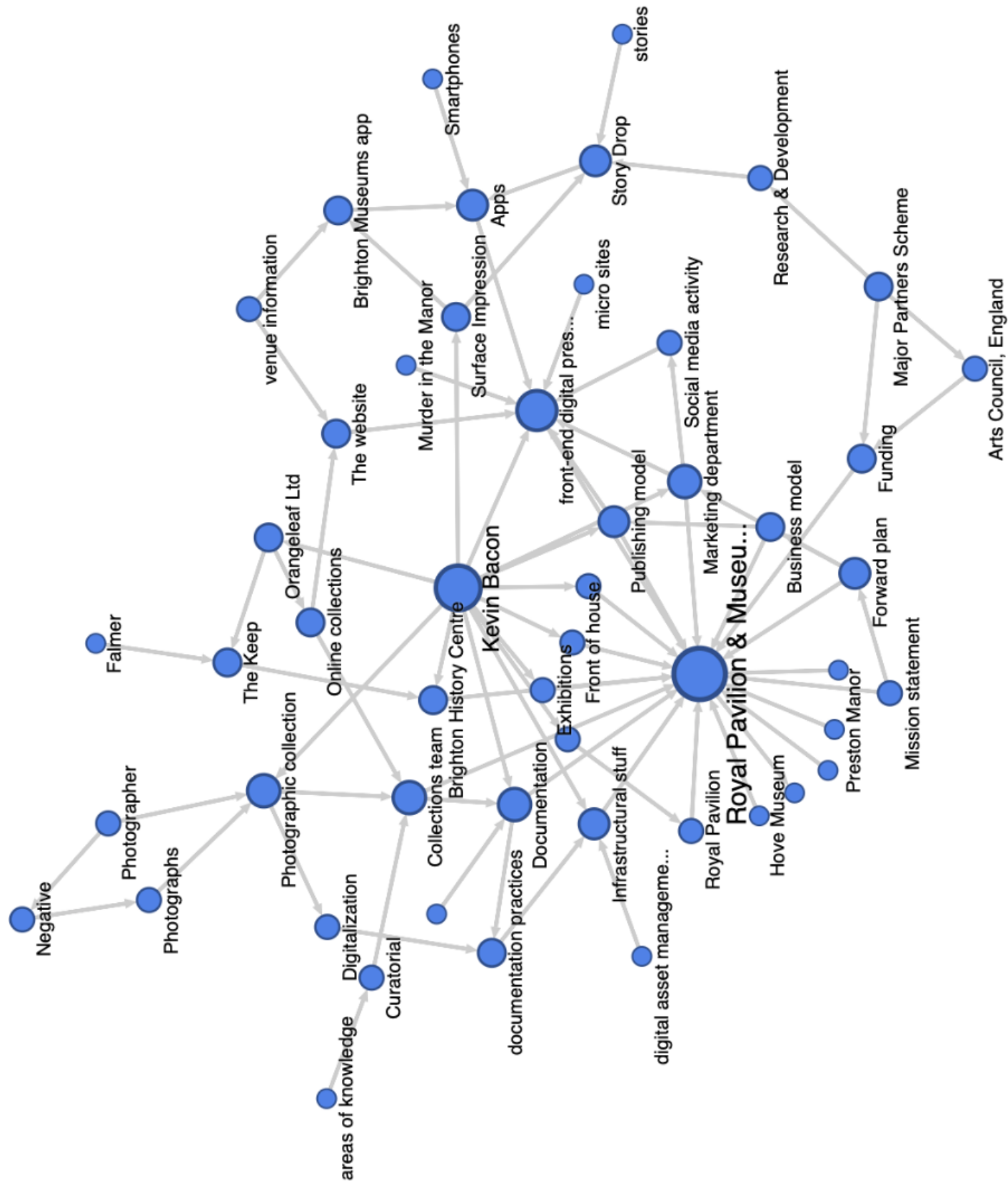


# Brighton Museum

| Actor / Actant                      | Interests  | Problematisation  | Enrollment  | Notes: Tokens, black boxes etc  |
|-------------------------------------|--|---|---|---|
| Royal Pavilion & Museums (RPM)      | Increase audience, please stakeholders                         | Who isn't engaging and why  |   |   |
| World Art Collection                | Preservation, education, public access                         | Present ethnographic collection in gallery space  | James Green Gallery   | Cabinets, thematic organisation   |
| Sussex Arts Marketing               | Marketing commissions from cultural sector clients             | non-user perceptions of museums   | Brief from RPM  | Report  |
| Young people                        | To understand what's being shown to them                       | tour of Brighton Museum   | Interviewed by SAM  | Interviews. Statement: "bewildered"   |
| London Olympic Committee            | Promote arts/culture strand of Olympics, political assuagement | Run Stories of the World strand   | Grants & commissions  | Application made by RPM   |
| MLA                                 | Keep museums libraries archives on agenda of Olympics          | Connect partners to Stories of the World strand   | Cultural Olympiad   | Helped museums take part in Cultural Olympiad. "bring lots of culture and engage young people with the Olympics and offer cultural opportunities" - part of Olympic bid |
| RPM                                 | Attract funding, be key "player" in SE                         | Position as the Stories of the World lead in the south east   |   | "there were other interests in the South East who wanted to do and as often happens Brighton kind of stuck its heels in, and we were the best fit really"               |
| Renaissance in the Regions          | Develop museums regionally                                     | Distribute funding and advice (on behalf of MLA)  | Renaissance scheme (MLA)  | Olympic "stamp" secures funding   |
| Other museums / arts                | Win Stories of the World funding                               | Go through process, compete with each other, deal with RPM  | Renaissance scheme (MLA)  | Drop out from process, become part of "second tier" with RPM  |
| Southampton Museums                 | Gain funding, develop projects, connect with audience          | Work with RPM on Stories of the World   | Cultural Olympiad / Renaissance   |   |
| Hastings Museum                     | Gain funding, develop projects, connect with audience          | Work with RPM on Stories of the World   | Invitation from RPM   |   |
| Bexhill on Sea Museum               | Gain funding, develop projects, connect with audience          | Work with RPM on Stories of the World   | Invitation from RPM   |   |
| Helen Mears                         | Create new gallery, build career,                              | Work with RPM on Stories of the World   | Invitation from RPM   |   |
| redacted                            | Work with ethnographic collection, build career                | Lead Stories of the World project at RPM  | Delegation from senior management   |   |
| redacted                            | Gain experience, develop career                                | Work on Stories of the Worlds at RPM  | Delegation of tasks from Helen Mears  |   |
| Focus Consulting                    | Commissions for project management / quantity surveyance       | Project manage SOTW   | Delegation from senior management/Helen Mears   |   |
| Objects from collection             | Embody significance  | Work with RPM on medium/high profile project  | Contract from RPM   | From the outset it was agreed that there would be an external project manager brought in which is fine  |
| Whitehawk Youth Group               | Take part in something interesting                             | To be included in the display   | Selection by curators   | Janita (Bagshawe - director of RPM) saying 'well how many objects have come out? And how many objects are going in?'  |
| Gallery visitors (current)          | Enjoy visit to museum  | Evaluate choices for new gallery  | Interview / visit with SAM  | "they wanted to see old objects and new objects, they wanted much less behind glass "... hands on, brains on stuff"   |
| Gallery visitors (future potential) | To understand what's being shown to them                       | Take part in survey to help develop gallery   | Interview with SAM  |   |
| World Stories Young Voices team     | Create new gallery   | "cultural specificity, so they wanted to see objects quite clearly situated in a place"   | Design of new gallery   |   |
| Gallery narrative                   | be a readable, understandable, short text                      | Develop narratives for display  | Writing up of idea  | "there were billions of them"   |
| World Stories Young Voices team     | Create "good" narratives                                       | Cut down potential stories to core set  | "shortlisting template that Laura who was project manager then had drawn up"  |   |
| Engagement lead                     | Connect with audiences   | "what kind of collections did we have around this story, what partnerships, what opportunities are there and what stories based on what we knew would appeal to young people" | "that process determined the stories that went into the gallery and then those were worked up by a curator working with an engagement lead on each story"   |   |
| WSYV team                           | do stories around issues                                       | Task from Word Stories Young Voices team  | "Story"   |   |
| Helen Mears                         | create "clean" display, but with concurrence of young people   | "young people wanted stories about drugs, sex and guns"   | "had to drop away because when you have a 50-word label to describe a funeral mask from New Ireland, people don't even know where New Ireland is. Why would they? It doesn't give you much scope to raise issues" |   |
| Whitehawk Youth Group               | A display they would like                                      | "I was quite prepared to drop labels in the gallery altogether"   | Consultancy with Whitehawk Youth Group  |   |
| WSYV team                           | Low maintenance, low budget AV                                 | "They really wanted to keep labels, they wanted to see them more branded nicer looking, not too much text and they also wanted more images"                                   | Session in gallery  |   |
| RPM technicians                     | Keep AV and other gallery facilities functioning               | Use simple AV options and offer more via "bring your own device"  | "We have no infrastructure really or very limited infrastructure to support AV"   |   |
|                                     |  | Only two people with a lot to cover   | "couldn't have some ground breaking interactive"  |   |

| Actor / Actant                                | Interests  | Problematisation   | Enrollment   | Notes: Tokens, black boxes etc   |
|---|--|--|--|--|
| Centre Screen                                 | Commissions from museum sector   | Research commission into QR codes                            | Produce report   | Report: visitors "they were more comfortable using their own piece of hardware then they ever would the museums" |
| Visitors without phones                       | Enjoy the gallery AV content   | Access same content as people who do have phones             | Kiosk in gallery space with all the material             |  |
| QR codes                                      | Trigger actions on smartphones   | Link visitors to additional content                          | Panels on walls  |  |
| Access Advisory Group                         | Improve access for disabled people   | Make sure new gallery is accessible                          | Sessions with group with designers, developers, team etc |  |
| Redman  | Interior Design commissions from Museums and Galleries                       | Commission to design WSYV gallery                            | Contract from RPM  |  |
| "Museum Collective" Youth Advisory Group      | Have fun with cultural projects  | Advise museum and volunteer for tasks                        | Recruitment by RPM                                       |  |
| Diane   | Access content even though she is blind                                      | Find alternative to QR code                                  | RNIB Pen Friend system                                   |  |
| RNIB  | Promote access/interests of blind and partially sighted people               | Portable device for triggering audio "notes" from any object | RNIB Pen Friend system                                   |  |
| Brighton and Hove City Council Youth Services | Support young people in B&H, build status within council to maintain funding |  |  |  |
| Youth Arts team                               | Arts focus of B&H Council Youth Services                                     |  |  |  |
| redacted                                      |  |  |  |  |
| redacted                                      |  |  |  |  |
| redacted                                      | Audience consultancy projects from museums                                   |  |  |  |
| redacted                                      | Evaluation projects with museums and arts                                    |  |  |  |
| redacted                                      | Run curatorial department at RPM smoothly                                    |  |  |  |
| the Hub                                       | Building commissions from museums and venues                                 |  |  |  |







# British Museum

| Actant                                     | Problematization<br>(Establishing the PURPOSE of things)                           | Interessement<br>(assessing the RELEVANCE of things)  | Enrolment<br>(identifying NEGOTIATIONS between things)  | Mobilization<br>(tracing the ACTIVITY of things)  |
|--|--|---|---|---|
| Who  | Which ...  | Why ...   | How ...   | What ...  |
|  | Roles people have<br>Functions tools have<br>Steps procedures have                 | People might be involved<br>Tools could be useful<br>Procedures should be followed  | People are recruited<br>Tools are selected<br>Procedures are adopted                            | People do<br>Tools enable<br>Procedures manage  |
|  |  | Recognise the agency across the network   | Accept Compromise   | Maintaining the product [network]<br>Punctualization  |
| British Museum                             | "the World's Museum" Towards 2020  | Strategy: "The Museum needs to rethink completely how it transmits information about the collection, and how it engages its visitors with the objects. New technology allows new ways of visiting the galleries: stories and images, enquiries and interactions, individual and group explorations all need to be crafted and promoted. And those who can never visit may now be enabled to experience, learn and enjoy." Towards 2020 document | "Two decisions" ... "to do a live cinema broadcast and also do an app about the exhibition." MC | Coordination of staff: "Other teams, a lot of meetings or emails, " MC Recruitment of new staff and outside suppliers.  |
| Department of Digital Media and Publishing | Department of BM, covering broad range of publishing activities                    | "new role will combine digital technology and traditional print publishing to explore the most effective ways of making the British Museum's content available to the widest possible audiences." Job Ad May 18, 2012   | Web team merged with publishing   | Web team coordinates with other departments, runs app development and builds web pages. "because the publishing team has been in our department for a couple of years and because they need the longest lead time on things because they need to get the book out, there often the ones who will do that initial image gathering, and I often find myself going to them and saying can I get this image or that image or give me all the images" MC |
| Web team                                   | Group of staff with responsibilities for maintaining and developing the BM website |   |   |   |

|  |   |  |  |  |  |
|--|---|--|--|--|--|
| <b>Matthew Cock</b>                              | Head of web team  | Joined BM in 1998, promoted from Creative Editor, COMPASS collections online to New Media Content Manager (2003) to Head of Web (2006) LinkedIn  | "As a member of the senior team in the Department of Digital Media and Publishing, I contributed to the strategic planning and development of cross-channel content initiatives, as a core part of the Museum's public engagement directorate." LinkedIn   | Supported project as liaison between teams, management, suppliers, provided resources (strategies, people, graphics, web pages) as needed  |  |
| <b>Patricia Wheatley</b>                         | Head of Broadcasting  | "came in 2005 in a sort of attachment from the BBC. I spent most of my life in the BBC as an arts producer director and then series producer and I came for 2 months I think and then didn't go [back]" PW |  | "most of it I've just done myself with an assistant, and we've just had to get on with it. And it's been incredibly busy in terms of the cinema broadcast. There was a proper budget business case and I acted like a producer" PW   |  |
| <b>Life and Death in Pompeii and Herculaneum</b> | Exhibition present by the British Museum  | "Popular subject" PW - blockbuster exhibition with decision to publish transmedia content via Event Cinema, app, web and social media as well as catalogue   | "a major exhibition on the Roman cities of Pompeii and Herculaneum, sponsored by Goldman Sachs. ... It is the result of close collaboration with the Archaeological Superintendency of Naples and Pompeii, will bring together over 250 fascinating objects, both recent discoveries and celebrated finds from earlier excavations. " BM press release | Pitch: "AD 79. In just 24 hours, two cities in the Bay of Naples in southern Italy were buried by a catastrophic eruption of Mount Vesuvius." BM website   |  |
| <b>Live Cinema Broadcast</b>                     | A simultaneous live transmission of arts events (other examples include National Theatre or Royal Opera House productions) to cinemas | "when we got to Pompeii it was just such a fantastically popular subject and it was so oversubscribed from the start. It seemed if we were going to do it, it would be an <b>opportunity</b> ." PW         | "It's not a television documentary and it's not a live entertainment show, it is a talking exhibition" PW. "There was a proper budget business case and I acted like a producer" PW  | "You need to give some sense of event, why people are going to the cinema. Will they come because they like the sense of occasion? Will they come with their friends? It's an opportunity to sit and concentrate without any distractions, it's a sense of event where live seems to be quite important. They like the live element, so they feel they are sitting and sharing the experience " PW |  |

|                                 |  |   |  |   |
|---------------------------------|--|---|--|---|
| <b>Event Cinema Productions</b> | Live cinema production co                            | "a combination of Sky Arts with Phil Grasses Company, who are now doing Event Cinema Productions" PW  | Recruited as broadcast partner by BM. "there were a couple of people put on contracts, but on the whole its mostly been the events cinema productions and that was a team, so I brought in and interviewed and took by recommendation hired." PW                                 |   |
| <b>Cinema Distribution</b>      | Org responsible for set up of events with cinemas    | "We did a tender process for the international distributor, we became our own distributor using a consultant, so that was quite a lot of work." PW  | "John Rooney who was with us for almost a year doing both, and then a head of production who managed all the logistics and the budget and the finance, paying people contracts etc., and an assistant producer who would run around helping and would help research scripts." PW | "Four freelance people who were taken on for a considerable length of time, myself and my assistant pulled into that too, and beyond that the crew, production, technical people with outside broadcasters. You can imagine a huge truck, there's a satellite truck, there's another truck with cables, there's cameras all plugged in and satellite broadcasts. Its incredibility tech heavy and of course that brings its own team, that's huge." PW  |
| <b>App</b>                      | An app published to accompany the Pompeii exhibition | "Touching on Pompeii or Herculaneum on the map takes the user through to the street plans, on which are plotted over 250 of the key objects featured in the exhibition. Each of the eight themes has an exclusive video introduction by the exhibition curator, Paul Roberts. A selection of star objects is accompanied by audio commentary from experts in Roman history: Mary Beard, Professor of Classics, Andrew Wallace-Hadrill, Director of Research, both at the University of Cambridge, and Amanda Claridge, Professor of Roman Archaeology at Royal Holloway." BM Press Release 2013 | Commissioned by BM, developed by Apdami, distributed by Apple to iPad and iPhone and Google Play to Android devices  | "A period before we produced the App, Apple got in touch with us, and I met a guy. Apple kind of have an engineer evangelist for lots of different areas and they go and meet people, they actively seek out what they call a list brands. And so they say you should be on the App store, is there anything we can do? Just let me know. There's not one person responsible for museums but its his second thing. He does healthcare but that's massive and museums are probably just 2% of his time, this is an extra bit. He got in touch and I said we're producing an App and it's going to be released for approval on roughly this day and he said we will keep an eye out for it. And actually because they normally say two weeks actually it can be longer they did it in the same day. |



|                    |   |  |  |  |   |   |
|--------------------|---|--|--|--|---|---|
| Curators (2)       | BM curators with responsibility for Pompeii exhibition  |  |  |  | "the curator for starters is the first one to get totally loaded down because they're already doing a major exhibition, they're writing the catalogue, they're writing the labels, they're having to deal with people about press, marketing, images and all that" PW | "it was tough on both the curators that I dealt with. I think both of them found it really grueling. I think they are both happy in the end that it was done, and had very good responses from it, but it was very very tiring." PW   |
|                    |   |  |  |  |   |   |
|                    | Computer Generated animation showing various stages of eruption of Vesuvius and its impact on the towns below |  |  |  |   |   |
| Children's version | Cinema event produced specially for young audiences   |  |  |  | very much for schools. So it was done the following day and went out in the afternoon. Schools would book a whole class into the cinema. MC   |   |
|                    |   |  |  |  | Different presenters, different scripts, quite different really. MC   |   |
|                    | Venue used to screen films  |  |  |  | Museum "became our own distributor using a consultant" PW setting up relationships with chains (Picture House Cinemas and multiplex chains)   | "And that was one of the things we did, we took the risk ourselves and we went out to the multiplex cinemas as well and they gave us 900 respondents who overwhelmingly liked it, because they felt that they were getting close to the experts, they were hearing from the people who lived with these objects and understood them. And the second most important thing was being able to see the objects and they looked amazing close up on a 40-foot screen. Quite low below was the documentary exploring volcano bit, which was interesting although viewers still wanted that story as well. So there was an overarching narrative that was nice and simple, and there was a headline in one of the newspapers like British Museum does disaster movie. ...this is what draws people |
|                    |   |  |  |  | "we went to about 1000 cinemas world-wide" PW<br>"So much of selling these subjects is about the individual cinema manager believing in the events cinema, its also about billing it properly because its a whole other genre" PW                                     | " PW  |

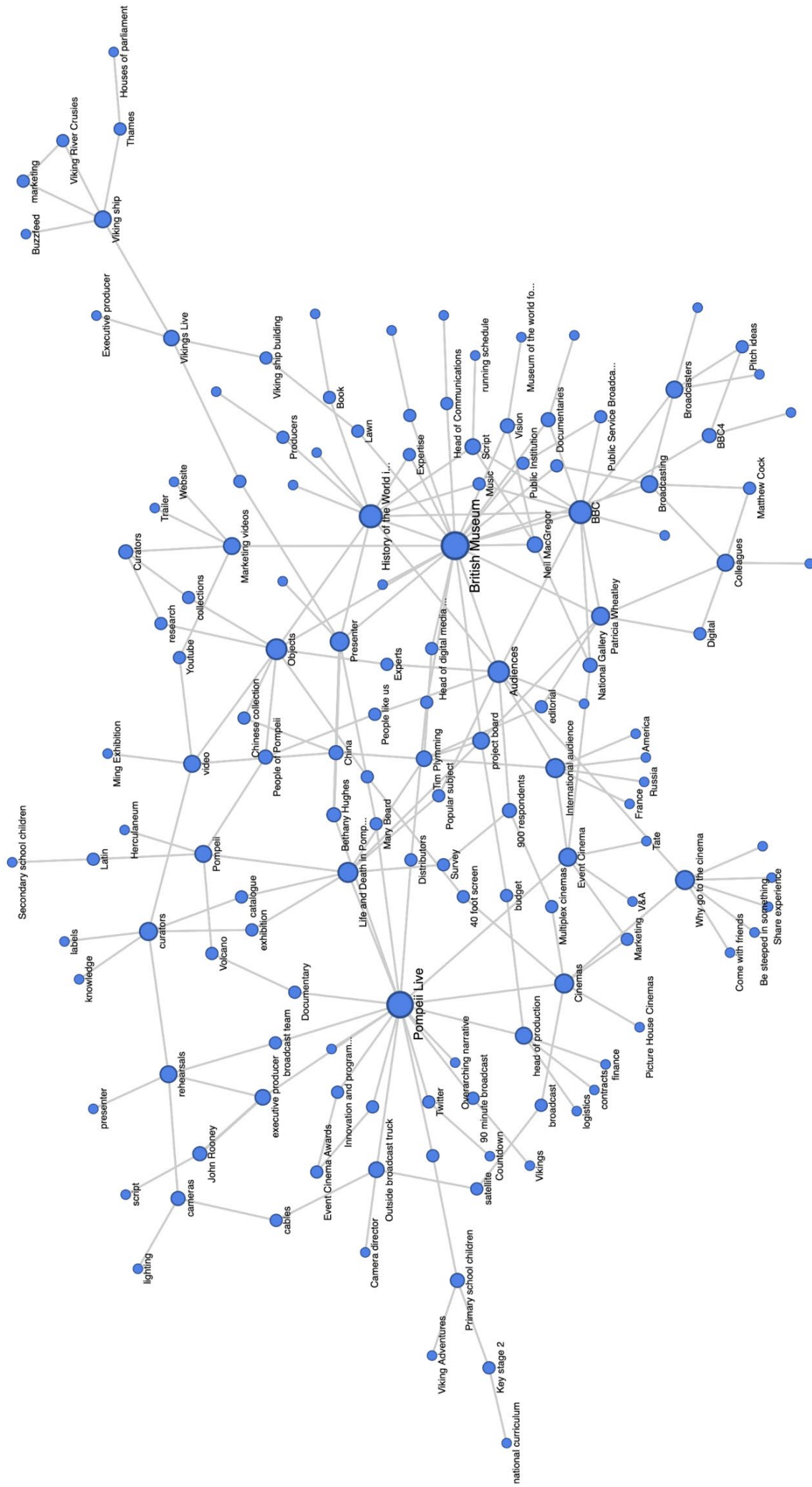












# Southend Museums

| Actant                                     | Problematization   | Interessement   | Enrolment  | Mobilization  |
|--|--|---|--|---|
| Southend Museums - <b>Beecroft Gallery</b> | <b>The Beecroft Gallery</b> , part of <b>Southend Museums</b> service, exists to display the <b>fine art collection</b> , principally concerned with the art of South Essex alongside touring exhibitions. | <b>The Gallery</b> seeks to display the works in its collection in order to engage with an audience. The <b>Museum Service</b> seeks funding in order to perpetuate itself and carry out its projects, conservation, marketing and maintenance etc. | The gallery management structure approved of <b>Clare Hunt's</b> application to the <b>Arts Council</b>  | The <b>Museum Service</b> "brands" the <b>app</b> and is the expressed provider of the content. <b>App users</b> are encouraged to visit the <b>gallery</b> .   |
| <b>Curator</b> (Clare Hunt)                | Employee of <b>Southend Museums</b> with job role: curator (later museum manager)  | Clare desires to get new <b>digital photography</b> for the museum's <b>art collection</b>  | Clare is made aware of <b>Arts Council</b> funding via museum information networks (MDO)   | Clare Hunt is the <b>project manager</b> of the app, selects the <b>artwork</b> , takes <b>photographs</b> of the <b>locations</b> and liaises with <b>suppliers</b>  |
| <b>Artists</b>                             | Painters (and photographers) operating in the South Essex area, creating <b>works</b> to represent the town and landscape  | Artists created <b>works</b> to sell (or for commission) and to express the nature or context of a <b>place</b> using the <b>media</b> (oil, acrylic, gouache etc) available to them.   | Artists were paid for their works, either directly by the <b>museum</b> , or by <b>collectors</b> who then donated their purchased artworks to the museum. | <b>Clare Hunt</b> consults her <b>curatorial knowledge</b> and the <b>collections management data</b> for the <b>fine art collection</b> and finds biographical information about the artists. This is edited into the <b>content</b> . |
| <b>Artwork</b> (fine art)                  | The works created by the <b>artists</b> , various (visual art) media, mainly from 19th and 20th Centuries to earn money, social interaction and further creative practice                                  | The works were created to be seen by others. Art exists as a social exchange between humans as well as a struggle between creator and media among other factors.  | Artwork was transported to the <b>museum</b> and either displayed or placed into storage   | <b>Clare Hunt</b> makes a selection from the <b>artwork</b> for the app. The <b>photographers</b> take <b>photographs</b> of all pieces in the <b>collection</b> .  |
| <b>Locations</b>                           | A place depicted in an <b>artwork</b>  | The locations are places found to be interesting by <b>artists</b> (or <b>commissioners</b> of artists)   | <b>Artists</b> visit locations and use (visual art) <b>media</b> to represent the place  | <b>Clare Hunt</b> pinpoints the location of the scenes in the <b>artwork</b> on a <b>map</b> .  |
| <b>Arts Council England</b> (ACE)          | Funding body that exists to further the <b>arts</b> and <b>museums</b> sectors in England  | The Arts Council offer a number of grants to <b>museums</b> and arts organisations. They also offer advice to potential applicants.   | ACE expressed a preference for a more digital media-focused project than <b>Clare Hunt</b> had originally envisioned (purely photography-based)            | ACE issues a grant to <b>Southend Museums</b> for the <b>app project</b> .  |

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| <b>App</b>                             | <b>Software platform</b> that allows for enhanced interaction between users and their phones or tablets ( <b>mobile devices</b> )                  | An app is a new <b>digital medium</b> , considered interesting by funders ( <b>ACE</b> ) and <b>museum staff</b> alike                          | <b>Clare Hunt</b> and colleagues decide to commission an <b>app</b> in order to get funding to also undertake <b>photography</b> of the <b>fine art</b> collection | The project to create an app is authorised by <b>Southend Museums</b> and <b>ACE</b>   |
| <b>Brief</b>                           | A document created to solicit proposals from <b>developers</b>   | <b>Clare Hunt</b> draws up briefs for <b>photography</b> and <b>app development</b> based on a list of anticipated <b>requirements</b> .        | The brief is sent to potential suppliers ( <b>developers</b> )   | The brief is used as to guide assessment of the <b>proposals</b> sent by potential <b>suppliers</b>  |
| <b>Developers</b> (Surface Impression) | A digital development company that creates websites and <b>apps</b>  | <b>Clare Hunt</b> discusses her app brief with <b>Peter Pavement</b> of <b>Surface Impression</b> and two other <b>developers</b>               | Developers draw up <b>proposals</b> convince the <b>museum</b> that their services are a good choice   | <b>Southend Museums</b> commissions <b>Surface Impression</b> as app developer   |
| <b>Photographers</b>                   | A company that specialises in producing <b>photographs</b> of <b>artwork</b>   | Clare Hunt discusses her <b>photography brief</b> with potential <b>suppliers</b>   | Photographers send <b>Clare Hunt</b> their <b>quotes</b> for their work  | <b>Southend Museums</b> commissions the Photographers to take <b>photos of the artwork</b>   |
| <b>Designs</b>                         | A series of graphic devices, of increasing fidelity, used to explore the usage and look of a <b>user interface</b>                                 | <b>Peter Pavement</b> of <b>Surface Impression</b> sketches <b>app layouts</b> with <b>Clare Hunt</b> in Southend                               | The sketches are refined into <b>Wireframe layouts</b> by <b>Peter Pavement</b> of Surface Impression  | The wireframe layouts are "filled in" with content by <b>Peter Pavement</b> and refined to be used as a guide for the <b>coding</b> of the <b>app</b>      |
| <b>Photographs</b> (of art)            | Digital replicas of <b>artworks</b> for use as records, study aids, media items etc  | The <b>photographers</b> are commissioned. They travel to the <b>Beecroft Gallery</b> and set up their <b>equipment</b> in the <b>art store</b> | Each <b>artwork</b> is photographed in turn with care given to <b>colour reproduction</b> and <b>detail</b>  | The digital photographs are delivered to <b>Southend Museums</b> who send on a selection to <b>Surface Impression</b> for use in the <b>app</b>            |
| <b>Maps</b>                            | A system of shapes and symbols used to represent the spacial arrangement of an area  | The <b>location</b> of each <b>place</b> represented in the <b>artwork</b> is identified by <b>Clare Hunt</b> on a photocopied map              | Digital maps, provided by <b>Google</b> and <b>Apple</b> are incorporated into the <b>app</b>  | The <b>location</b> of <b>artworks</b> are represented on the <b>app's</b> map by thumbnail <b>photographs</b> arranged in <b>trails</b>                   |
| <b>GPS</b>                             | Geo Positioning Satellite technology - a system to identify the latitude and longitude of a <b>location</b> using triangulation between satellites | The latitude and longitude of each location is requested from <b>Clare Hunt</b> by <b>Surface Impression</b>                                    | <b>Clare Hunt</b> uses a GPS enabled <b>camera</b> to pinpoint latitude and longitude. These are adjusted by trial and error when developing the app's <b>map</b>  | GPS is used by the <b>mobile devices</b> to show the <b>user's</b> position relative to the <b>locations</b> of the <b>artwork</b> in the <b>app's map</b> |

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| <b>Photographs (places)</b>                          | <b>Photographs</b> (taken by <b>Clare Hunt</b> ) to represent the current view of a location depicted in an artwork |  | <b>Clare Hunt</b> purchases a new camera with <b>GPS</b> functionality   |  | <b>Clare Hunt</b> travels to each <b>place</b> , finds the viewpoint of the original <b>artwork</b> and photographs it, capturing the latitude and longitude in her <b>GPS</b> enabled camera | The modern photographs of the <b>locations</b> represented in the artwork are overlaid on the photographs of the <b>artwork</b> itself. <b>Users</b> operate a control to fade from one image to another, allowing for comparison between old and new. This becomes a defining <b>design</b> feature of the <b>app</b> . |
| <b>Content</b>                                       | Text and metadata used to describe an <b>artwork</b> and its <b>artist</b>  |  | <b>Clare Hunt</b> selects a set of <b>artwork</b> for the <b>app</b> and looks up the metadata for each.   |  | <b>Clare Hunt</b> compiles the content into <b>Microsoft Word</b> . She edits the content and sends it to <b>Surface Impression</b> .   | The content is entered into the <b>Content Management System</b> by <b>Tim Bowers</b>  |
| <b>Content Management System</b>                     | A web-server-based item of software used to store and display <b>content</b> for digital media                      |  | Surface Impression develops a content management system called Content Curator, used for a variety of <b>websites</b> . They adapt it to provide <b>content</b> to <b>apps</b> . |  | <b>Tim Bowers</b> uploads <b>content</b> and <b>photographs</b> of <b>artwork</b> and <b>locations</b> to the content management system   | The <b>content management system</b> feeds data to the <b>app software</b> in <b>JSON</b> format   |
| <b>Creative Director / Designer</b> (Peter Pavement) | A staff member at <b>Surface Impression</b> with responsibilities for concept and <b>design</b>                     |  | As creative director of <b>Surface Impression</b> , Peter Pavement often takes on a <b>creative</b> and <b>quality control</b> role for <b>app</b> development projects          |  | <b>Peter Pavement</b> works with <b>Clare Hunt</b> to come up with a concept for the app's <b>structure</b> and <b>layout</b>   | Peter Pavement creates designs and briefs <b>Alex Peckham</b> and <b>Tim Bowers</b> about implementation of the <b>app</b> . He coordinates with <b>Shelley Boden</b> and <b>Clare Hunt</b> to undertake <b>testing</b> , <b>refinement</b> and <b>installation</b> .  |
| <b>Project manager</b> (Shelley Boden)               | A staff member at <b>Surface Impression</b> with responsibilities for project control                               |  | Shelley Boden is appointed as project manager of the Southend <b>App</b> project by <b>Peter Pavement</b>  |  | Shelley Boden communicates with <b>Clare Hunt</b> , draws up <b>schedules</b> , solicits <b>content</b> , coordinates with <b>Peter Pavement</b> , <b>Tim Bowers</b> and <b>Alex Peckham</b>  | Shelley Boden guides <b>all contributors</b> and uses <b>testing group's</b> session to improve quality of the <b>app</b>  |
| <b>Developer</b> (Alex Peckham)                      | A staff member at Surface Impression with responsibilities for <b>app software</b> development                      |  | Alex Peckham is given the task of development of the Southend <b>App</b> by <b>Shelley Boden</b>   |  | Alex Peckham uses Titanium Appcelerator <b>app software</b> to create the app   | Alex Peckham overcomes bugs, <b>design changes</b> and <b>mobile device</b> platform differences to finish <b>app</b> that can be deployed to <b>app stores</b>  |

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| <b>Content manager</b> (Tim Bowers) | A staff member at <b>Surface Impression</b> with responsibilities for <b>content management</b>                              | Tim Bowers is asked to upload content for the Southend <b>app</b> by <b>Shelley Boden</b> and <b>Peter Pavement</b>               | Tim Bowers uses <b>desktop software</b> such as <b>Microsoft Word</b> and <b>Adobe Photoshop</b> to refine content.  | Tim Bowers uploads refined <b>content</b> into <b>content management system</b> and checks quality of results  |
| <b>Mobile devices</b>               | Smartphones or tablets used by <b>consumers</b> for a wide range of tasks  | <b>Apple</b> and <b>Google</b> (and other manufacturers) popularise <b>smartphones</b> and <b>tablets</b>                         | App <b>developers</b> can publish their apps through the <b>Apple App Store</b> and <b>Google Play</b> . Mobile device users download <b>apps</b> from these stores.                     | <b>Southend Museums and Arts Council</b> target mobile devices as the <b>digital</b> component of the <b>funded</b> project. <b>Surface Impression</b> has a <b>developer</b> relationship with <b>Apple</b> and <b>Google</b> and can publish <b>apps</b> . |
| <b>App software</b>                 | The code and components used to create an <b>app</b>   | <b>Apple</b> and <b>Google</b> release and maintain software development kits so <b>developers</b> can make their own <b>apps</b> | Third party <b>software developers</b> create <b>frameworks</b> to make <b>cross-platform</b> development easier. One such framework is <b>Titanium Appcelerator</b>                     | Surface Impression use <b>Titanium Appcelerator</b> to implement the app functions   |
| <b>Prototype</b>                    | A working model of a piece of <b>software</b> used to assess <b>functions</b> and <b>design</b>                              | <b>Shelley Boden</b> and <b>Peter Pavement</b> plan a testing phase as part of the <b>app development</b>                         | The <b>app software</b> , <b>photography</b> and <b>content</b> is used to create a prototype  | The prototype is deployed to the <b>testing group's mobile devices</b>   |
| <b>Testing group</b>                | A group of <b>audience members</b> (potential <b>users</b> ) recruited to test a piece of <b>software</b>                    | <b>Clare Hunt</b> puts out a call for volunteer testers on <b>Facebook</b>  | The testers assemble at a cafe in <b>Southend</b> and walk a <b>trail</b> in the <b>app</b> , while being observed by <b>Clare Hunt</b> , <b>Shelley Boden</b> and <b>Peter Pavement</b> | Insights from the test are compiled and used to improve the <b>software</b> and <b>design</b> of the <b>app</b>  |
| <b>Old Library</b>                  | A <b>Southend Council</b> asset in their estate, formerly used as the central library for the <b>town</b>                    | The <b>Council</b> are looking for a new purpose for the building   | The <b>Beecroft Gallery</b> is moved to the Old Library building   | An exhibition of <b>South Essex landscape</b> art is hung, with the <b>selection</b> closely following the <b>selection of artworks</b> in the <b>app</b>  |
| <b>"Kiosks"</b>                     | Fixed <b>digital display</b> within the <b>gallery</b> space used to add access to <b>content</b> for <b>museum visitors</b> | <b>Surface Impression</b> suggests the use of iPad kiosks in the new gallery  | Two iPad <b>tablets</b> and metal kiosk cases are ordered.   | The kiosks are loaded with the <b>app</b> and installed in the new <b>gallery space</b> in the <b>old library</b> building   |

