The Role of Technology in Participatory Museum Experiences

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Abstract

Museum curators have recently begun to collect and arrange exhibits in increasingly innovative ways, to tell stories instead of merely labeling artifacts, to orchestrate interactive events instead of presenting through static displays, to encourage multiple interpretations of history instead of presenting through single viewpoint didacticism. This study reports on a 2014 survey of post-modern approaches to exhibitions using technology in thirty New York and Washington DC museums. The technologies employed are highlighted to argue that activities requiring visitor participation enliven the museum visit and enhance the educational experience.

I Museums and Technology

The focus of the present study is on the role of technology in presentation of artifacts on display to involve the viewer in the experience and lead them to engage in a dialogue with the exhibition, also known as a "museum encounter as a performative and intersubjective event sometimes referred to as the educational turn" (O'Neill and Wilson, 2010). Other scholars of museology emphasise that nowadays the museum "cannot simply rely on the aura of the authentic object as a window onto the past, but must deploy multimedia technologies and performance as narrative strategies associated with art forms such as literature or film" (Andermann & Arnold-de Simine, 2013:2). Recently there have been numerous articles in the culture pages of major newspapers such as the New York Times highlighting the mixed experiences of deploying technology in exhibitions such as the following:

"Today, though, some years into their digital experiments, the museums' dreams have diverged. The Brooklyn Museum has been boarding up social-media efforts and now wants a closer-to-home approach, using the Internet for things like taking you into the studios of local artists. Meanwhile, the Met is trying to excite audiences as far away as China, circumnavigating that country's bans on Twitter and Facebook and drawing on curators' language skills to reach millions via Weibo, a

microblogging platform there"（Giridharadas, 2014）.

The reasons for adopting technology in museums are not just to keep up with fashionable trends in the business and entertainment worlds. "The pragmatic need to appeal to modern audiences, who expect to be surrounded by technology, is one engine of change. But museum officials insist there is a powerful aesthetic and cultural rationale as well"（Lohr, 2014）.

In line with this move for museums to reinvent themselves is an attendant concern for redefining just what it is that museums do. Rather as Marcel Proust in his notable work *À la recherche du temps perdu*（1913–27）with its central theme as the recovery of the lost past and the releasing of its creative energies through the stimulation of unconscious memory, in a sense a museum's function is to act as a repository of memories and to awaken in the visitor a sense of engagement with the past. There are variations on this theme. There are museums which attempt to be universalist and collect anything that is old. These are sometimes referred to as inclusive museums. Museums of a local area sometimes follow this approach. There are also specialized museums focusing on a particular field such as Arts, Culture, History, Memorialistic, Natural History, Science, Literature, or Music.

But traditionally museums have collected artifacts and put them on display, tending towards a didactic, single interpretation. Museums have also increased the scope of their activities to include collection, research, restoration and preservation of their artifacts. But for the public, it is the way that these artifacts are presented that has changed, in their architecture, layout, curatorial themes, display methods, and use of technology so that museums have become popular destinations for locals and out of town tourists alike.

Opinions vary for this from it being due to the rise in popularity of the museums as "a major cultural symptom of the crisis of Western faith in modernization as a panacea"（Huyssen, 1995）to curators employing modernist techniques of collage, montage and surprise to engage visitors in a narrative（Baur, 2009）.

Why has this happened, that museums have gone from being musty fusty dusty seldom-visited warehouses of memorabilia to foundation-funded research institutions, repositories and showpieces of culture? Partly it has been due to the pressure of groups: ethnic minorities, gender groups, enthusiasts, activists, who have challenged the single viewpoint narratives that accompanied

artifacts. And partly too it has been due to economic pressures; in order to justify their existence, museums also need to show they have visitors who are “customers”, both local and from afar. It is also due to the changing nature of museums, partly thanks to the popularity of TV shows such as *Antique Roadshow* so that even obscure items are now collectibles. Another reason is that the museum clientele now seek interactive experiences rather than being dictated an official traditional interpretation of an artifact and what it represents.

Another shift in the role of museums is that they are increasingly taking on the role of informal schools as they seek to engage and educate their visitors, not just school parties, but general visitors too.

Against this background of change in the world of museums is the role of technology as a key driving force of universal change to be ignored at one’s peril with digitized representations of artifacts becoming commonplace both in museums and on their websites（Parry, 2007）. Technology has, of course, been used in museums for many years. Audio guides are, for example, commonly available allowing visitors to be guided in their tour, as a personal tour guide. The visitor is somewhat passive in this approach, however, although the route can often be changed through a menu.

In a previous study of museums（Natusch, 2009）, reference was made particularly to the use of website design to prepare visitors before arrival, to review the exhibits after they left, and to acquaint non-visitors with items on display and held in storage. The focus of the present study is on the role of technology in assisting presentation of artifacts on display with the goal of involving the viewer in the experience and leading them to engage in a dialogue with exhibition, also described as inviting museum visitors to “”complete the meanings of the object-technology interface through their own emotional and experience-based responses”（Andermann and Arnold de-Simine 2012）. The design and use of technology needs to be evaluated according to established checklists. As an example, online resources of museum websites should be navigable following criteria of usability such as layout, hierarchy, consistency, clarity, breadcrumbs, maps, menus, and anchors（Bezerra, 2014 and Doss, 2014）, particularly as these relate to the design of museum websites（Sylaiou, et al. 2014）.

Ⅱ Methodology

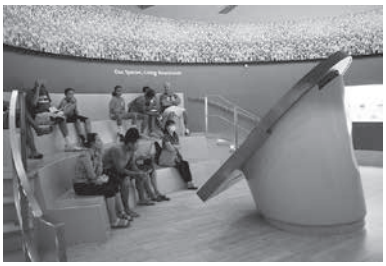
Thirty museums in New York and Washington D.C. were visited with a set of questions designed to reveal changes in their curatorial approach, and the way that artifacts were being presented (particularly through the use of technology), and the ways that visitors were encouraged to interpret and engage with exhibitions. The list of museums visited is listed in Appendix 1 and the set of guiding questions is in Appendix 2.

The United States cities of New York and Washington DC were chosen for this particular survey since their museums are world class, innovative and the curatorial approach has seen several innovative experiments involving technology.

Ⅲ Towards a Taxonomy of Participatory Technology in Museums

To highlight the technological innovations now appearing in museum displays, a brief review of earlier technologies is listed Table 1. These include books (1.1) which can be read in designated areas (some museums even provide libraries for visitors to use), audio guides (1.2) which can follow a linear commentary, or tailored to the visitor's path through the exhibits, audio-visual units (1.3) allowing the visitor to enter a private movie showing, and mini theaters (1.4) which accommodate relatively small numbers of people to view short films (often on a loop cycle) relating to the exhibition.

Table 1　Traditional technology examples in museums

Technology	Purpose	Example	Context
1.1 Reading corner	To supplement information on exhibits with books	Studio Museum Harlem, New York	
1.2 Audio guide	To listen to audio guide as a personal guide while walking around museum	Metropolitan Museum, New York	
1.3 Wall mounted audio visual post	To receive supplementary information via video	City Museum of New York, New York	
1.4 Mini theater	To highlight short videos relating to an exhibit	National Museum of Natural History, Washington, DC	

Technological developments have produced other（sometimes simple, at other times complex）media-related facilities and devices designed to augment the visitor's experience. This experience may be conceived of as enhancing understanding of the curated material, or to encourage the visitor to self-reflect and evaluate the exhibition leading to extending their personal understanding and identity. Such use of technology may not of course invariably lead to clarity, engagement and ultimately self-knowledge. The use of media can heighten the spectacle character of the exhibition but it can also present a clash akin to post-modern, fragmentary and discontinuous impressions

(Arnold-de Simine, 2012). By way of describing the newer media facilities and devices which are appearing, the following Tables 2 to 9 are an attempt to construct a taxonomy for classifying technologies aimed at encouraging participation in museum exhibitions and augmenting the educational turn.

In the tables the museological function of the technology is the lynchpin of the proposed taxonomy (Column 1) leading to the participating activity on the part of the visitor (Column 2). The museum and exhibition is identified in Column 3 and an illustration of the activity is shown in photographs in Column 4 (all photographs taken by the author).

Information about exhibits is usually explained through tags at the side of the artifact. Museums are beginning to use movable audio-visual units (2.1) to do this and to accommodate speakers of other languages using multilingual menus on wall tags as well as audio-visual tablets (2.2). Even guides were observed carrying tablets which carry pictures of the exhibits they are explaining (2.3).

At several places, internet websites were used to extend the displays beyond the exhibition and even the museum itself. At the Guggenheim Museum's exhibition on the Art of Futurism, iPads were available for visitors to search for articles and films using a purpose-designed museum website. At the New York Metropolitan Museum, a group of visiting monks were observed equipped with iPads following an audio-visual guide in Thai language (2.4).

Computers may also be used to allow visitors to view artifacts that would otherwise not be easy to access. An example of this is videos and music performance files held on a computer network at the Harlem Jazz Museum (2.5). The computer accesses an in-house server which simplifies and speeds up the visitor's experience.

In the Charles James exhibition at the New York Metropolitan Museum, the glass case protecting the exhibited costumes served as a see-through tag identifying and explaining the exhibit (2.6) while videocameras playing over apparel (2.7) were an example of augmented reality, using computer-generated data or images to enhance a viewer's view of an object.

Table 2　Broadcasting, augmenting and receiving visual and textual information

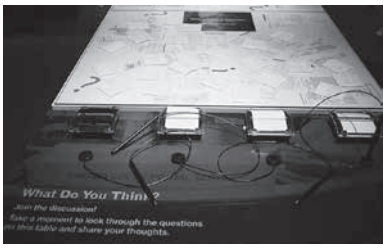
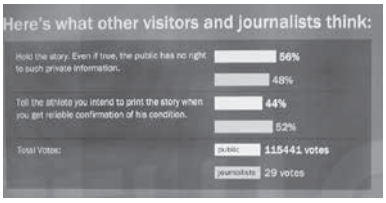
Museological Function and Technology	Performance Engagement Participation	Museum	Context
2.1 Broadcasting audio-visual information: Movable audio-visual unit	To receive supplementary information via video	National Portrait Galley, Washington, DC: Interview film	
2.2 Receiving explanations in other languages: Multilingual menus on wall screens	To cater to groups who visit the museum in larger numbers	City Museum of New York, New York: Language options: English and Spanish	
2.3 Broadcasting visual and textual information: iPad	Tour Guide highlighting details and taking questions on artifacts which cannot be touched	Metropolitan Museum of Art New York: Egyptian artifact details	

2.4 Receiving visual and textual information: iPad	Visitors self-accessing artifact details	Metropolitan Museum of Art New York: Rockefeller collection of African, Oceanic and American Arts	
2.5 Self access of museum information not on formal display: Computer accessing dedicated website	Visitors listen to self-selected music items and background information	Jazz Museum in Harlem, New York: Jazz music archive	
2.6 Tagging: Description written on glass case	Viewers see through the description to the exhibit	Metropolitan Museum of Art, New York: *Charles James: Beyond Fashion*	
2.7 Exhibit（macro）and details（micro）: Video camera on robot arm sending close-up video footage of exhibit detail to a screen	Details of fabrics captured with close-up lens and projected onto screen outside the exhibit case	Metropolitan Museum of Art, New York: *Charles James: Beyond Fashion*	

The activities shown in Table 3 can be subdivided into three distinct groups: choosing an option which results in a private activity, choosing an activity which results in private activity with others, and solo performance in a public domain for the benefit of others. Engagement with actual artifacts, such as the USPS mail scanner（3.1）, gives the visitor a direct sense of what it is like to work with devices. Opening doors, or selecting options from a screen（3.2 and 3.3）is like a menu-driven computer program giving the visitor a sense of control over how they navigate the exhibition. Engaging with surrogate artifacts such as building blocks in the National Building Museum（3.4）provide a bridge between individual participatory activities and public performances. These so-called "public performances", such as posting notes for people later to see（3.5）or seeing how others voted on an issue（3.6）result in a non-threatening performance which is both private and non-threatening due to its lack of an immediate audience. The last three participatory activities（3.7, 3.8 and 3.9）, however, are performed in the public eye and although requiring a certain level of expertise, present an opportunity to receive acclaim for one's performance.

Table 3　Devices or facilities inviting visitor private and public participation

Museological Function and Technology	Performance Engagement Participation	Museum	Context
3.1 Using an artifact: Hand scanner	Working through menus to track mail	National Postal Museum Washington DC: Actual UPS scanner	
3.2 Choice: Opening a door	Push on picture to see immigrants' letters	National Postal Museum Washington DC: Historical letters	

3.3 Choice: Selecting a digital panel	Working through screen menus	Newseum Washington, DC: News Headline Timeline	
3.4 Using educational artifacts: Building blocks	Model-building illuminated table	National Building Museum, Washington, DC: *Play Work Build*	
3.5 Engaging in a discussion: White board and Post-It notes	Comment on discussion using Post-It notes	National Postal Museum, Washington DC: Post-It note discussion on world events	
3.6 Making a decision: Computer multiple choice software	Making a decision and comparing with others	Newseum, Washington DC: What would YOU do about publishing a news story ?	

3.7 Working creatively alongside others: Art facilities	Working on own art projects	Museum of Art and Design, New York: Design space	
3.8 Performance in a public domain: Performance stage	Performing as TV show anchor	Newseum Washington DC: *Anchorman*	
3.9 Performance in a public domain: Grand piano	Visitors are invited to use piano	Jazz Museum in Harlem, New York: Impromptu performances	

Table 4 lists two examples of simulations. Some simulations are the equivalent of circus rides or simple video games but there are also simulators which require skill and can act as training installations. Airline pilot flight simulators may require a high degree of expertise or, as at the Smithsonian Air and Space Museum, require only a modicum of training to provide a thrill（4.1）. Simulators such as the replica of the ENIGMA coding machine used by the British to crack German coded transmissions during World War II require skill and patience to which individuals trained in video games are able to apply their skills（4.2）.

Table 4 Simulation devices which mimic real-world processes

Museological Function and Technology	Performance Engagement Participation	Museum	Context
4.1 Simulated flight: Flight simulator	Visitor sits in a simulator pod and experiences flying sights, sounds, and movements	Air and Space Museum Washington, DC: Flight Simulator	
4.2 Simulated Coding: World War II British decoding machine ENIGMA	Participants invited to input a message, encode it then decode it	Spy Museum, Washington, DC: ENIGMA	

Projected images as used in the cinema require little active involvement but films and projected images now sometimes ask more of the participant as shown in Table 5. At a minimal level the 4D Imax at the Newseum (5.1) engages all the senses as it activates 3D images, surround sound, moving seats, and sprays of scented mist. The level of participation is basic since the viewer is fundamentally in a passive movie-watching state but the intensity of physical reactions can be higher than in a normal film. At a higher level of engagement are projected images such as blocks which can be maneuvered and tumbled by waving at them in the National Building Museum (5.2). Dinosaurs reminiscent of those from Jurassic Park in the Natural History Museum (5.3) appear to lunge and leap as visitors attract their attention. Projection exhibitions point the way towards Star Wars-type projected holographs being the next step in projection exhibits.

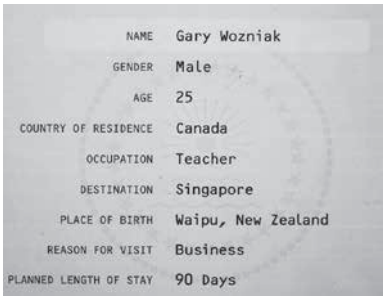
Table 5　Cinematic and projection techniques to extend sensory engagement

Museological Function and Technology	Performance Engagement Participation	Museum	Context
5.1 Heighten sensory awareness: 4D IMAX movie	Audience views historical reenactment movies which engage visual, auditory, tactile, taste and olfactory senses	Newseum, Washington DC: 4D IMAX Theater	
5.2 Heighten sensory awareness: Projector and interaction	Audience interacts with projected images of building blocks which collapse according to hand wavings	National Building Museum, Washington DC: *Play Work Build*	
5.3 Heighten sensory awareness: Projector and interaction	Audience views projected images of dinosaurs which react to hand wavings	Museum of Natural History, Washington DC: Dinosaur Room	

Museums which memorialize injustices and atrocities telling the stories of events such as the Jewish Holocaust or the disappearance of dissidents in several South American countries seek to engage the empathy of the visitor. The Museum of Jewish Heritage and the Museum of Tolerance, both in New York, effectively use audio-visual technology to persuade the visitor to empathize with the plight of Holocaust victims. At a less appalling intensity, but nonetheless encouraging powerful feelings of empathy, is the Tenement Museum in New York（Table 6 : 6.1）. While the museum does not use sophisticated technology, the visitor does experience the world of migrants living in New York by entering rooms they lived in, and clambering up hot stairwells without the assistance of elevators. A less everyday context is offered at the International Spy Museum in Washington（6.2）where visitors are invited to adopt an identity（or "legend" in intelligence terminology）, to memorize it in preparation for an interrogation test at the end of the visit. In fact, at this museum there are

several evaluations delivered by interactive software including tests of spy-craft, of observation and of disguise design.

Table 6 Empathetic techniques and extensions of identity

Museological Function and Technology	Performance Engagement Participation	Museum	Context
6.1 Empathetic Displays: Minimal	Walking up stairs, no elevators	Tenement Museum, New York: Rooms and stairwells in immigrant houses	
6.2 Hint of later test: Static computer software page projection	Choose an identity and memorize it ready for an interrogation later	Spy Museum Washington DC: Identity memorization	

Performance art can be live or make use of technology. Examples are listed in Table 7. Sometimes the installations themselves encourage visitors to become performers such as Dan Graham's *Hedge Two-Way Mirror Walkabout* (7.1) on the roof-top garden of the Metropolitan Museum of Art in New York. The use of hedging and mirrored glass stimulates people to walk through, engage with reflections and talk to other people. This foregrounding of technology promotes self-awareness and interaction. By contrast, the centerpiece of Lygia Clark's *The Abandonment of Art* at the Museum of Modern Art (7.2) focuses on a person lying on a mat surrounded by people who are in turn surrounded by screens on which are projected Clark's past works. In this case the technology serves as the background to the "happening". At the site of the Twin Towers in New York a memorial museum has been established. The museum shares features of the empathy as discussed in Table 6 above and outside there is an installation stimulating critical reflection of the cataclysmic event of 9/11. The Michael Arad-designed waterfall pouring into a square abyss (7.3) surrounded by the names of the 3,000 people who died there evokes a sense of an infinite void and was a challenging technological collaboration with public authorities and victims', families.

Table 7　Performance art installations leading to critical reflection

Museological Function and Technology	Performance Engagement Participation	Museum	Context
7.1 Self Reflection: Two way mirrors, hedges	Walk through the sculpture, engaging with reflections, other people	Metropolitan Museum of Art, New York: Dan Graham's *Hedge Two-Way Mirror Walkabout*	
7.2 Self reflection: Screen, installation props	Engagement with the installation and audience	Museum of Modern Art, New York: Lygia Clark: *The Abandonment of Art*	
7.3 9/11 Memorial: Waterfall	Water falling into square hole ringed with names of Twin Tower victims	Site of Twin Towers, New York	

Architecture creates spaces in buildings which can themselves become the focus of the visitor engagement or provide a backdrop for an installation (Table 8). An example of architectural function inspiring spectacular form is Frank Lloyd Wright's Solomon R. Guggenheim Museum in New York (8.1). Visitors walk around its spiral ramp, pausing to peruse exhibits in alcoves on their trek to the top. The classical National Gallery of Art in Washington has a "look but don't touch" policy as befits the value of its paintings and sculptures on display but employed I.M. Pei to design its modernist East Wing. Even the underground entrance of that building encourages engagement (8.2). Visitors can be observed going back and forth along moving walkways for the novelty of riding under the roof lighting display reminiscent of the DC subway stations. Washington's Hirshhorn Museum (8.3) features 6,700 square feet of space covered by Barbara Kruger's exhibition *Belief+Doubt* so arresting that visitors ride the escalators multiple times viewing the walls. The National Building Museum itself is a classical building but also accommodates post-modern exhibits, a notable example being the Bjarke Ingels Group maze (8.4) which is an inversion of traditional

mazes in that it becomes easier to find the way out as you move through it because the walls become progressively lower.

Table 8　Architecture itself as an exploration or performance space

Museological Function and Technology	Performance Engagement Participation	Museum	Context
8.1 Architecture which leads visitors through the exhibition: Ramp leading through architectural space	Visitors walk up to the top progressing through the exhibition	Guggenheim Museum, New York: Ramp spiraling up to the top of the building	
8.2 Architecture which leads visitors: Moving walkways	Visitors go back and forth along walkways for the ride under lights	National Museum of Art, East Wing, Washington, DC: Museum access moving walkway	
8.3 Architecture in which the form dominates the function: Decoration of a space	Visitors linger in the lobby area and ride the elevators multiple times passing through the exhibition	Hirshhorn Museum, Washington, DC: Barabara Kruger *Belief+Doubt*	
8.4 Architecture accommodating an installation: Inverted puzzle	Visitors enter a maze that becomes easier to map towards the center as the walls become lower	National Building Museum, Washington, DC: Bjarke Ingels Group Maze	

Museums have recently created opportunities for visitor engagement and institutional promotion by highlighting locations for ubiquitous self-photographs or “selfies” to be taken to leave evidence of visiting（Table 9）. At the Newseum, selfies are uploaded and displayed on a public timeline along with photos of others who elect to post（9.1）. At the New York City museum, footprints on the floor

suggest strategic places to take selfies showing the individual and the museum in an advantageous manner. The Museum of Arts and Design also provides opportunities for selfies to be taken using not only normal "photographic" images but cameras with which the participant could experiment to produce post-modern images（9.2）.

Table 9　Leaving evidence of engagement through selfies

Museological Function and Technology	Performance Engagement Participation	Museum	Context
9.1 Making visitor visual artifact: selfie facilities	Visitors take selfies and post on visitors' log page	Newseum Washington DC: Selfie and post it by email booth	
9.2 Making visitor visual artifact: selfie facilties	Visitors take experimental selfies taking distorted images	Museum of Arts and Design New York: Experimental Selfies	

Museum Shops

At the end of a museum visit, as likely as not, we exit through a museum shop. While a museum shop is not an exhibition per se, it does share some characteristics of exhibition, display and even performance with the exhibitions since it often sells memorabilia and items which supplement exihibits. Mention is made of the museum shop because the role of a museum shop is part educational, part memento, part commercial and is a kind of participatory experience associated with any museum visit（Table 10）. As Canclini（2001）puts it, it is the opening-up of modernism's temples of highbrow culture to mass audiences through the incorporation of shops, restaurants and cafes to extend the leisure experience. The museum shop is therefore a revenue boosting facility. Many museums carry goods which advertise themselves through apparel or utensils bearing their name（10.1）as well as providing goods which commemorate and extend the visit（catalogues and books about the subject of the exhibitions）. Others make a conscious effort to educate the visitors

by offering learning materials. Some shops are comprehensive and attempt to carry items which cover all these categories (10.2). Technology has not as yet played a significant role in the selection of goods on offer at museum shops with a few exceptions such as the National Building Museum which offers construction kits made with modern materials, or the Air and Space Museum which sells consumer goods developed from the NASA space program.

Table 10 Museum shop typologies

Museum	Mission	Example goods	Shop appearance
10.1 Jazz Museum in Harlem, New York	Minimal: Advertising through apparel	T shirts, caps, mugs	
10.2 Metropolitan Museum, New York	Comprehensive: Wide variety of goods	Advertising apparel and artifacts, educational materials, artwork, books, memorabilia	

Ⅳ Conclusion

Technological innovations were categorized as serving the following functions:

- Broadcasting, augmenting and receiving visual and textual information
- Devices or facilities which invite visitor private and public participation
- Simulation devices which mimic real-world processes
- Cinematic and projection techniques to extend sensory engagement
- Empathetic techniques and extensions of identity
- Performance art installations leading to critical reflection
- Architecture itself as an exploration or performance space
- Leaving evidence of engagement through selfies

Because the functions of museums include storage, preservation, restoration and presentation of artifacts, museums also function as research and educational institutions. Certainly a little entertainment enlivens education but beyond that, technology helps museums become educational institutions building from their traditional role as citadels of community cultural memory.

There are still many museums which do not make special use of technology. Deploying technology is not cheap and also requires special skills and planning. Museums whose artifacts are independently compelling and invested with a sense of reality where curators feel no need to use technological augmentation include the National Gallery of Art, the Sculpture Garden, the Butterfly Habitat, the Victory Garden all in Washington DC. El Museo del Barrio in New York serves as a culture center and focuses on oral（not digital）storytelling. But expectations of visitors may well precipitate changes in the look and feel of even the most traditional museums.

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Appendix 1

Museums visited during a 2014 trip to New York and Washington D.C.

New York
9/11 Memorial Museum
Dance Theater in Harlem
El Museo del Barrio
Metropolitan Museum of Art
Museum of Arts and Design (MAD)
Museum of Jewish Heritage
Museum of Modern Art (MoMA)
Museum of the City of New York
Museum of Tolerance
National Jazz Museum in Harlem
National Black Theater
National Museum of the American Indian (New York)
Solomon R. Guggenheim Museum
Studio Museum Harlem
Tenement Museum

Washington DC
Hirshhorn Museum and Sculpture Garden
International Spy Museum
National Archives
National Building Museum
National Gallery of Art (including Sculpture Garden)
National Gallery of Art IM Pei East Wing
National Museum of Air and Space (Smithsonian)
National Museum of American History
National Museum of Natural History (including Victory Garden and Butterfly Habitat)
National Portrait Gallery
National Postal Museum (Smithsonian)
National Museum of the American Indian (Washington)
Newseum

Appendix 2

Museum Questionnaire

1. What category or genre of museum does this fall into? Graphic Arts? Culture? History? Memorialistic? Natural History? Science? Literature? Music? Collections?

2. Does the museum attempt to be universalist or particularized?

3. How are the exhibits organized? By theme, by chronology, by collections, by use, at random?

4. What is the ratio of traditional static artifacts to audiovisual modern media displays? Is the visitor passive or active as they walk through?

5. Are there interactive activities? For example hands-on devices. Levers to press? Lights that light up?

6. Are there audio accompaniments to guide the walk around? Can the audio be accessed by WiFi and cell phone? Can the audio be accessed only chronologically or selectively?

7. Are there short films to accompany the static exhibits? Are the audio or video materials chronological on a repetitive loop or can they be accessed selectively?

8. How does the architecture affect the museum display?

9. How is the interior space organized? By organized walk through or a randomized path? Is it well signposted for easy navigation? Are the maps readable?

10. How does the lighting, wall spaces, room divisions, cabinets affect the exhibits? Are they well lit? Is there space to navigate?

11. What new elements of technology have been incorporated into the museum displays? Working models, remote video cameras, holograms?

12. What is the overall mission statement of the museum itself?

13. Do the artifacts have stories attached to them?

14. How do they tell the artifact narratives? Textually through plaques, pictorially, or auditory?

15. Does the curatorship show vision and artistic flare? Does it follow a factive or emotional approach? Does it appear to be didactic with a single vision or does it encourage multiple visitor viewpoints in its presentational approach?

16. How many rooms are devoted to teaching activities and workshops?

17. What is the proportion of artifacts in storage compared with those on display?

18. What is the policy and protocol associated with collecting artifacts from the community? Is it a selective choice of high value items or is it inclusive such as local oral history fragments?

19. Where does the funding for running the museum come from? Foundation, government grant, admission tickets, lending of artifacts to other institutions?

20. What is the ratio of commercial vs. educational merchandise in museum shops? What unique items culturally educational items are for sale in the shop?