The Museum and the Web: Three Case Studies

Overview

This website asks the question: What role does the museum website play in the overall museum experience?

The public history museum website is often treated as a separate entity from the museum: as an advertising medium, as a catalogue of contents and gift shop, or as a warehouse of materials for public access. And yet, that virtual space has so much more potential to extend and amplify the museum's mission and philosophy, as well as the value of its materials.

This project examines three public history museums (the US Holocaust Memorial and Museum, National Museum of the American Indian, and Anacostia Museum and Center for African American History and Culture) to explore how the Web is being used and could be used to facilitate greater understanding of history and culture.

Introduction

I propose that the museum website, rather than being a mere outbuilding, is potentially a doorway that leads to many rooms in the same house. In fact, it is a doorway that can open to more rooms than the house itself can hold. Viewed this way, the opportunities for contextualizing and enriching the museum experience are staggering. Yet even museums with large budgets sometimes fail to treat the Web viewer as an actual visitor, or to integrate the experiences of visiting virtually and visiting physically into an overall, deliberately considered, museum experience.

Given the explosion of the Internet as a source for information about everything (figures vary from 185.5 million to 199.9 million users in America alone), no museum can afford to avoid a Web presence, to create a website that is doing less than it could, or to create one that performs badly. The World Wide Web is "where" people "go" to learn what a museum exhibits, what its mission and philosophy are, and—increasingly—information about the history and culture represented by those exhibits. Further, studies have shown that a Web presence augments rather than decreases museum attendance. A 2003 study by Ross J. Loomis and Steven M. Elias¹, Colorado State University, found that seventy percent of their participants indicated that using a museum website would increase the likelihood of a visit.

The intersection of a course on the history of museums and interpretation with one on web design led me to ask a number of questions about how public history museums use their websites. Among these were the following:

- What, if anything, is revealed via the website regarding current issues of interpretation of public history and culture?
- Do websites offer just the facts or are they interpreting the facts, and is the distinction clear?
- Who is the authority behind the website? Is a curatorial voice evident?
- Is the approach consistent for both the virtual and the physical space?
- What does a physical visit achieve that a virtual visit cannot or does not?

- What does a virtual visit achieve that a physical visit cannot or does not?
- Does a post-museum visit to the website add anything to the experience?
- How can and do both visits work together for a more satisfying, educational, and memorable museum experience? In sum, what is the *interface* between the museum and its website?

My goal in researching the answers to these questions was to understand the relationship between public history museums and their websites—both what it is and what it could be. A second goal that developed as I worked was to integrate previous studies and my own research into a comprehensive set of criteria for both developing and assessing public history museum websites so that they function as an active and deliberate interface between virtual and physical spaces.

In looking at the relationship between museums and their websites, a parallel can be drawn to Richard Kurin's ideas about the relationship between museums and the public, as expressed in *Reflections of a Culture Broker*. "If there is any type of mediation in representing culture, any agency involved on behalf of the representer, the represented, and the audience to whom they are represented, brokerage is involved." He elaborates further:

Brokers, if adept, also transform values from one domain to another. [. . .] Culture brokers empirically and interpretatively study the culture to be represented, arrive at models of understanding, develop a particular form of representation from a repertoire of genres, and bring audiences and culture bearers together so that cultural meanings can be translated and even negotiated. If the process is effectively executed, the culture broker can facilitate participatory cultural transformation and change—both between and within culture groups. ³

Bearing Kurin's comments in mind, another way to ask my question is: "Are public history museums truly using websites to mediate culture?" I would suggest that a website is more than a marketing device or an online encyclopedia: it is a culture broker. *The website that translates and negotiates the museum's values is one that acts as an instrument of the museum's mission*. Few museums undertake this consciously, however. The public history museum website is underutilized, then, when it is treated primarily as an incidental tool for raising attendance or even for education that is relevant but not integrated into an overall experience. To reiterate: Museums should treat a visit to the website not as a *separate* encounter, but as *part* of the encounter of visiting a museum.

In a discussion about Roland Barthes and *Camera Lucida*, David L. Eng makes comments about photography that can readily be applied to the concept of the Web. The Web has the potential to be, like photography, "a medium in which the distance between the referent and its signifier is collapsed [. . .], in which the boundary separating representation and 'reality' blurs." The Web, again like a photograph, arrests an object in time, collapsing a "three-dimensional object into a two-dimensional plane" that suggests spatial convergence of object and image but which in fact does not-cannot-converge them. The "space between image and object can never be entirely eliminated" (ibid.). The camera lens-and, in effect, the Web designer's "lens"—shapes the information by choosing a particular point of view, a point of view that (ideally) the museum integrates into its mission. This "ideal geometral point from which we perceive reality is not merely a physical but an ideological positioning" notes Eng, and then he raises a question that directly relates to this issue of how museums use their websites. "How does the

imperative to see the world from a particular temporal, spatial, *and* ideological location—to accept its reality from a particular *social* point of view—intersect with the domain of history?"⁶

In the arena of public history, resolving what "truth" or "reality" is or how it should be presented is tied to a complex series of issues that have been vexing curators since the 1960s. These issues are so contentious that at times they have complicated matters of presentation within the physical space almost to the point of paralysis (as with the Smithsonian Institution's Enola Gay exhibit, for instance). When exhibits move into a virtual space that many people do not understand, presentation and ideology operate under additional constraints. This website cannot address all of these issues, but it takes a necessary look at how some of them govern what museums are able to put on the Web. Because of the Web's capacity for contextualization and multiple viewpoints, an argument might be made that museum websites can portray "truth" and "reality" better than the physical space can. It might also be argued that the virtual space is ultimately the more democratic one, as it can present a full range of perspectives within the same "house."

An essential element of this argument is that the Web attracts a wider audience with a greater diversity of economic, ethnic, and educational backgrounds than is typically associated with museums, and "surfing" the Web can land all kinds of people in a museum site. If it is interesting enough, they will stay there. With features including text, graphics, animation, audio, video, and/or three-dimensional imaging, a website can be incredibly entertaining, and in the process replicate nearly every aspect of the physical museum visit except for the physicality itself. According to Jacob Nielsen, however, only ten percent of users scroll beyond the first screen. The top four or five inches (the area known as "above the fold") are the most critical in the design. Whether viewers just "hit" the site or "visit" it (remaining more than ten seconds) depends in part on their intent but also in part on that seven-second impression of the top third of the page. If it's powerful, someone might walk through the virtual door and discover a marvelous world hitherto undreamed of

¹ Loomis, Ross J., and Steven M. Elias. "Website Availability and Visitor Motivation: An Evaluation Study for the Colorado Digitization Project." 1/06/03.

http://www.cdpheritage.org/resource/reports/loomis report.pdf>

² Kurin, Richard. *Reflections of a Culture Broker: A View from the Smithsonian*. Washington: Smithsonian Institution Press, 1997, p. 19.

³ Ibid., p. 21-22.

⁴ Eng, David L. *Racial Castration: Managing Masculinity in Asian America*. Durham: Duke University Press, 2001, p. 39.

⁵ Ibid., p. 40.

⁶ Ibid., p. 42.

⁷Cody, Sue Ann. "Historical Museums on the World Wide Web: An Exploration and Critical Analysis." *The Public Historian* 19, No. 4 (Fall, 1997), p. 40.

Methodology

Over the course of four months, I examined at least 100 museum websites (mostly for public history museums), as well as numerous other types of websites. (A partial is included in this website.) My goals were to develop an understanding of what makes a Web visit easy and memorable, what approaches and techniques museums are currently using (and to what effect), and what innovations other types of websites use that might fruitfully be employed on a public history museum website. I was then able to categorize public history museum websites into four basic types. The simplest is what I label an *Ad*; this is essentially a one-page poster for the museum and consists only of a *home page*. It conveys basic information such as location, hours, and overall focus of the museum. It may or may not contain images, such as an image from the collection. (For an example, visit http://www.alabamamuseums.org/b bchm.htm.)

The second type I call a *Brochure*. In addition to the home page with the information mentioned above, it has either two or three additional pages or one long, scroll-down page that might include a calendar of events, an exhibition roster, membership information, and/or directions. (For an example, visit http://ritzville-museums.org/depot-museum.shtml.)

A third type I call a *Catalogue*. This has multiple pages but is organized either horizontally (one page leads to the next, as in a book) or, if vertically, in a shallow hierarchy (one page might lead to additional information related only to something on that page). A Catalogue describes the museum's mission, calendar, membership benefits in detail, the museum shop (possibly with online ordering), and the individual exhibits (possibly with a short blurb about each)—in addition to the basic information. It might provide some brief historical context. (For an example, visit http://www.queensfarm.org.)

The Ad, Brochure, and Catalogue function the same way that these types of marketing and information materials would in a print format. The difference in presentation is negligible: one is read on a screen, the other on paper.

The fourth type, *Education and Research* (which might also be called a *Learning Environment*), takes better advantage of the Web. Using multiple pages, the website conveys not only all that can be found in the Catalogue, but also extensive information about exhibits, such as contextual history, history of individual artifacts, and additional research material. (For an example, visit http://www.wshs.org.) In a lecture given at "Museums on the Web: An International Conference, 1997," Robert Guralnick called this organizational structure "infinite hierarchical depth. [Starting] with very general information about a topic, [we can] move deeper and deeper into the meat of the topic [. . .]." Since this type of website is the only one with the potential to be a genuine "room" of the museum, I selected for study three museums with Education and Research websites.

It must be pointed out that these were also museums with both a physical and a virtual presence, as opposed to an exclusively virtual presence. Virtual museums have been defined as "an organized collection of electronic artifacts and information resources. [...] A *learning museum* offers substantial online learning resources which invite many repeat visits and enable substantial investigations and exploration." It is content-rich, might

take multiple visits to explore, may offer learning activities for many ages and learning styles (including research), and increases desire for a physical "real-time" visit to the museum.

For objectivity, I picked museums that I had never visited either virtually or physically: The United States Holocaust Memorial and Museum, The National Museum of the American Indian, and The Anacostia Museum and Center for African American History and Culture, all in Washington, DC. I selected these museums not only because of the type of website they employ, but also because, as national museums, they are in the spotlight for how they handle issues of diversity, ethnicity, and interpretation.

It is important to note here that I am neither a museum nor a Web professional. My occupation for the last twenty-two years has been as a freelance writer and editor—in other words, as a purveyor of effective communication. My particular expertise lies in analysing the clarity and efficacy of materials for the reader and rewriting or making recommendations according to my findings. Therefore I was able to approach the museum visit as an informed but unbiased museum-goer.

This website looks at the entire experience with a bifurcated eye: the naïve eye going into it and the educated eye coming out of it. I made a deliberate decision to include my voice in this examination; doing so is, in effect, the same as presenting the museum audience with a signed curatorial statement (while of course making no claims to being a curator). In addition, I wanted the project to reflect an actual viewer's experience. In other words, this project is not just about abstract concepts and applications; it is also about how real people respond to those concepts and applications. Admittedly there are limitations on this, since I had a purpose in mind throughout my investigation.

Nevertheless, I created a plan that to some degree replicated a standard approach. First I visited each museum's website; then I travelled to the museum and compared the experience. In addition, I noted what expectations I had prior to the physical visit (based on my previous virtual visit) and how those expectations were or were not met. Following the museum visit, I revisited the website to see what it offered as far as helping to clarify my understanding of the exhibits, as well as to see whether I could add anything to the physical experience by revisiting the website. Originally I had also planned to interview museum personnel, but I abandoned that plan when I realized that it might compromise the objectivity of my visits.

After I had visited the museums physically once and virtually twice (once before and once after the real-time visit), I read deeply in the available literature in the field of museums and the Web. While much has been published about Web design in general, less has been written about Web design in relation to museums. The only comprehensive and germane article that I read, "Historical Museums on the World Wide Web: An Exploration and Critical Analysis" by Sue Ann Cody, was published in 1997. Given that it asked many of the same questions that I had raised—but asked them eight years ago—it seemed timely to revisit the issue. Cody did not, however, address my fundamental question, which is how a website can function as a part of the museum experience rather than primarily as bait to lure the visitor to the physical site.

The creation in 1997 of Archives and Museum Informatics, which sponsors an annual, international conference on museums and the Web, has contributed greatly to the

body of work in this area. I found a plethora of relevant articles in their archives. Nothing, however, directly answered my question.

After reading the available materials, I revisited the websites for the three museums, this time examining them from a more informed, technical view. Finally, I developed some recommendations and a list of criteria based on the total experience.

These three museums update their websites frequently. Included within the individual sections are "snapshots" of their home pages in November of 2004 and July of 2005. The Web changes so swiftly that new approaches will doubtless be in place by the time this site is published, but the questions raised in this paper will, I trust, be nonetheless worthy of consideration—if only as a measure of how far public history museum websites have travelled conceptually in such a short time.

Community."http://www.fno.org/museum/museweb.html

Issues of Interpretation

In her groundbreaking article regarding museums and the World Wide Web, Cody addressed the tendency of both the physical and the virtual museum environments to ignore "unpleasant aspects of history." She raised the question, "Can the Web improve a museum's ability to display controversial, disturbing, or even unpleasant material on the Web?" 11

Potentially, all three of the museums I visited could address the issue Cody raised. The United States Holocaust Memorial and Museum deals with the subject of genocide; the National Museum of the American Indian has the option to deal with the subject of genocide; and the Anacostia Museum and Center for African American History and Culture could and has tackled slavery and civil rights. (And some historians, notably Fath Davis Ruffins, consider the treatment of African Americans as genocide.) Examining current issues of museum interpretation will provide a critical foundation for understanding the complexity of presenting artifacts—controversial or not—to the public.

One primary issue is whether the museums should take a populist or authoritative view toward exhibitions. *Populism* challenges the notion that there is a singular view of how change occurs throughout history, whereas an authoritative view takes the opposite position. Didactic exhibits are construed as authoritative, while interactive exhibits might be considered populist if they invite multiple interpretations. Further, one intent of a populist view is to shift the role of the viewer/museum-goer from a passive participant to an active conversationalist in the process of understanding the past.

The Web is an especially adept vehicle for showing a multiplicity of views; a museum might expand its ideological approach simply by utilizing this aspect of the Web. To tell the stories of American Indian and African American history without

⁸ Guralnick, Robert P. "Bridging the Gap Between Research and Education: The Future of Network Technology in the Sciences and Science Museums."

< http://www.archimuse.com/mw97/speak/guralnic.htm>

⁹ McKenzie, Jamie. "Building a Virtual Museum

offending or alienating the museum-goer (for a host of contrary reasons) begs a careful approach, and arguments can be made for supporting a linear, multiplistic, or relativistic framework in both museum and website. On the other hand, as a specific event the Holocaust seems less open to interpretation but similarly suitable for developing via one of these stances or a combination thereof. A pertinent question is whether these museums approached such issues in the same way for both the virtual and physical experiences. For example, oftentimes a museum's curator will sign exhibit statements to signify that an individual is offering a point of view. Do websites likewise make a distinction between the individual and authoritative voice?

All three museums also address aspects of contemporary culture; whether they handle current culture with the same approach as past culture is another issue relevant to the physical versus the virtual museum experience. In "Museums as Contact Zones," James Clifford asserts that:

When museums are seen as contact zones, their organizing structure as a *collection* becomes an ongoing historical, political, moral *relationship*—a power-charged set of exchanges, of push and pull.¹²

Neither community 'experience' nor cultural 'authority' has an automatic right to the contextualization of collections or to the narration of contact histories. The solution is inevitably contingent and political; a matter of mobilized power, of negotiation, of representation constrained by specific audiences. ¹³

The three museums worked collaboratively with their individual constituencies to design and build their spaces and exhibits, thereby addressing the problems Clifford raises. Nevertheless, given the difficulties that museums (and especially the Smithsonian) have encountered over the last decade with brokering culture among the museum, its constituents, and the peoples whose stories are being told, whether the Web truly works as another contact zone (and if so, how) is a compelling question.

In his article, Clifford also proposes "a decentralization and circulation of collections in a multiplex public sphere, an expansion of more diverse arts, cultures, and traditions in large, established institutions as necessary but not as the only or primary point of intervention." It could be argued that the Web is a vital means for such decentralization, for the Web makes it possible to view exhibit and research materials at any time of day and anywhere throughout the world. Whether these three museums use the Web for "decentralization and circulation" seemed an extension of the question about a populist vs. an authoritative approach.

On the other hand, Clifford's suggestions for "more diverse arts, cultures, and traditions," as well as decontextualization, raises the specter of entertainment—or *edutainment*—tainting the authenticity of the museum's content. The "Disneyfication" of history, as described by Mike Wallace in *Mickey Mouse History and Other Essays on American Memory*, as well as in *Vinyl Leaves: Walt Disney World and America* by Stephen M. Fjellman, is the retelling of history to make it fit a particular political (i.e., whitewashed) view. It is also to make it fun and marketable. As Fjellman notes:

One of the ways people try to make sense out of their lives is to locate their activities in some sort of context. [. . .] By pulling meanings out of their contexts and repackaging them in bounded informational packets, decontextualization

makes it difficult for people to maintain a coherent understanding about how things work. Meanings become all jumbled together—separate in that they all are abstracted from their different environments and equal in that their packaging destroys any sense of scale by which they could be measured against each other. Differences are glossed over, and 'differences that make a difference,' as Gregory Bateson has put it, are neutralized. Disconnected information passes in front of us at high speed.¹⁵

Exhibits in both the physical and the virtual space run the danger of being presented as artifacts or activities isolated from meaning, or of being presented with so little information and so much leeway for interpretation that they are ultimately without meaning. The Web, especially, has the capacity to contain so much information distributed at such a high speed that it can be overwhelming if not organized relationally. It is also rife with efforts to "edutain" and offers sound bytes of information pegged to animations (via Macromedia Flash or similar software) and trivial games. The intersection between virtual and physical presentations with interpretation seems particularly critical in considering how museums and their websites together teach history.

Given the predominance of the three types of public history museum websites (Ad, Brochure, and Catalogue), the question must be raised whether the museum's mission in an Education-and-Research type of website is compromised in the need to make appeals for memberships and donations. Does marketing overwhelm the museum's mission or its ability to address complex and politically charged issues in either space?

A final ideological consideration combines two related issues. First, is the museum to be viewed as a sacred space or a democratic, public space? Second, is the impact of the museum meant to be one of emotional resonance or intellectual stimulation? How can or does the museum website reflect and actively replicate—if at all—the poetic sensibilities of the museum experience?

Much has been written both for and against museums as shrines or sources of wonder. Stephen Greenblatt, discussing the State Jewish Museum in Prague, recognizes a distinction between viewing and remembering—history as removed from emotion and history as memory, the latter being tied to the effect of resonance. *Resonance* he defines as:

[. . .] awakening in the viewer a sense of the cultural and historically contingent construction of art objects, the negotiations, exchanges, swerves, and exclusions by which certain representational practices come to be set apart from other representational practices they partially resemble. ¹⁶

This resonance depends not upon visual stimulation but upon a felt intensity of names, and behind the names, as the very term *resonance* suggests, of voices; the voices of those who chanted, studied, muttered their prayers, wept, and then were forever silenced.¹⁷

Can this awe or wonder be communicated in a virtual space?

The sense of museums as "temples of hushed reverence, where children have to be kept in order, where things must not be touched [. . .]" is achieved partly by arrangement of the artifacts themselves and by the content of curatorial statements. It is

also achieved by the effects of architecture. Both the National Museum of the American Indian and the U. S. Holocaust Memorial and Museum were designed to make a powerful architectural statement. The Anacostia Museum, however, began with former Smithsonian Secretary S. Dillon Ripley's notion to establish "a sort of storefront museum, a drop-in place without the fluted columns and grand staircases, an approachable place with hands-on exhibits." The original building was a "former dance hall, skating rink and church"—in other words, a place for a broad rather than a select audience. The current building honors the same philosophy, albeit in a space specifically designed for the museum. How the physical space reflects ideology is, then, another issue that might be raised about the design of the virtual space. Does it, too, reflect an ideal of resonance or of "an approachable place"?

Issues of cultural interpretation may be seen as irrelevant to a museum website, but I suggest that integrating the experience of the virtual space with that of the real-time space cannot be accomplished if these issues are not considered and a position consciously adopted and applied to the website.

Comparing the Virtual and the Physical Visits

Examining the differences, advantages, and disadvantages of both the virtual and the physical museum can help understand how the two can be approached as parts of a single whole. I have not yet found a convincing argument for replacing a physical museum visit with a virtual one, although solely virtual museums are more and more prevalent and offer intriguing possibilities for curating exhibits which could not in reality be constructed. Cody cites both Helen Rozwadowski and Bernard S. Finn when she points out that the Web is unable to convey "scale, texture, a sense of place, and other three-dimensional qualities." [...] 'Be it small or large, seeing the real thing is unambiguous.

¹⁰ Cody, Sue Ann. "Historical Museums on the World Wide Web: An Exploration and Critical Analysis." *The Public Historian* 19, No. 4 (Fall, 1997), p. 41.

¹¹ Ibid., p. 40.

¹² Clifford, James. "Museums as Contact Zones." *Representing the Nation: A Reader*. David Boswell and Jessica Evans, eds. New York: Routledge Press, 1999, p. 438.

¹³ Ibid., p. 449.

¹⁴ Ibid., p. 452.

¹⁵ Fjellman, Stephen M. *Vinyl Leaves: Walt Disney World and America*. Boulder: Westview Press, Inc., 1992, p. 30-31.

¹⁶ Greenblatt, Stephen. "Resonance and Wonder." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 45. ¹⁷ Ibid., p. 47.

¹⁸ Lowenthal, David. "Pioneer Museums." *History Museums in the United States: A Critical Assessment.* Warren Leon and Roy Rosenzweig, eds. Urbana: University of Illinois Press, 1989, p. 116.

¹⁹ Kernan, Michael. "Around the Mall and Beyond." (Student Packet, assembled by Phyllis Leffler, University of Virginia, p. 315).

There is often an emotional reaction that accompanies the perception of true size.' This perspective is undoubtedly lost in a Web presentation."²⁰

Three-dimensionality and scale are unarguably two of the most distinguishing, and irreproducible, elements of the physical exhibit. To see how small early 17th century vessels are in actuality, for instance, is to gain appreciation for the suffering a trans-Atlantic voyage caused. The texture of an object and such details as the surface, wear, or craftsmanship are lost in relationship to the whole when seen on a screen. On the other hand, display limitations might prevent close inspection of an artifact. To counter this, some museums (the National Museum of the American Indian, for instance) have point-of-display computer screens that make it possible to see a magnified view of a selected object.

The virtual visit is considered to be a solitary activity, one that might allow for enhanced concentration. By contrast, the physical visit is considered a communal activity, one you might be sharing, for example, with several busloads of elementary school children. (This proved not to be the case, however, during my visit to the Anacostia, when I was the lone person in the museum except for the guard.) Nevertheless, being part of a group viewing an exhibit (even a group of strangers) can alter the experience. While this might be a negative factor, in the museum space a dialogue is at least possible. A chat room, as Cody notes, affords some opportunity for conversation among virtual museum visitors, but it is an essentially faceless interaction.²¹

Cody's article also raised the issue of disconnectedness that occurs when viewers jump from page to page (or section to section) at whim rather than according to a progressive, linear plan that provides a clearer understanding of the overall content. Further, she questions the tendency for the Web to reduce attention span in the same way that television does:

[A]s one becomes used to the constant action Disney and the Web provide, the attention span for real, slower activity becomes shorter. The Web experience is not as memorable as an actual museum visit, but if seen as reality, it could further devalue the direct experience. When one compares personal memories of museum visits to memories of Web sites browsed, it becomes clear that real museum visits make a deeper impression than virtual experiences.²²

As Cody implies, the ability of a website to convey "wonder and resonance" is limited. It is not impossible, however; in the same way that a book can move a reader, theoretically so could a website–although I have yet to experience this, and certainly I did not in any of the public history museum websites I visited. On the other hand, any time an intellectual connection is realized, isn't it accompanied by a sense of wonder and even joy? That kind of discovery is certainly possible in a deeply layered, well-constructed site. Advances in Web design and techniques have brought the possibility of creating truly memorable websites closer to hand.

The museum website does have some advantages over the physical space. One of the most important is that access to archives and artifacts is tremendously expanded. For materials that are too delicate to exhibit, the Web might provide the only means for showing and viewing them. While photography exhibits suffer because the photographs cannot be seen in context of one another or (in some cases) in full size, those that are fading, decrepit, or small can be seen better on a website, whereas they might not be seen

at all if not digitized. In addition, by reducing the amount of physical handling that some materials receive, they may be preserved longer.

The Web enables curators to provide a hierarchy of descriptions for the artifacts, targeting materials to different age groups and educational or interest levels. In the physical space, descriptions and explanations are often restricted to brief captions or labels due to insufficient room, because they might distract from the objects, because crowds may make it impossible to read more than a line or two (if that), or because lack of interest on the part of the average viewer prevents it from being worth the effort. On the Web, links can connect to source documents, in-depth articles, longer scholarly interpretations, related materials, and relevant collections in other institutions.²³

A Web visit eliminates crowds, difficulties of and expenses for travelling and parking, and sensory overload. A visitor who has journeyed a long distance to see an exhibit is likely to stay until exhausted, while the virtual museum-goer can "travel" to any museum in the world while eating dinner at home. Virtual visits provide access to collections that might otherwise be inaccessible, especially to an amateur researcher, and thus the virtual museum might be considered more democratic. In a paper presented at the 2004 "Museums and the Web" conference, Mike McConnell argued that "in the virtual world, users remain in control and are not limited or intimidated by traditional or 'expert' barriers such as cataloguing systems or curatorial taxonomies."²⁴

In the same paper, McConnell noted that properly researched, resourced, and designed websites expand the possibilities for creating meaningful relationships by placing materials in new contexts. In addition, creative websites may attract audiences that "would not normally use libraries or museums." Since restrictions of space, fragility, cataloguing, and so forth are removed, virtual visitors can see what they want to see—or thought they wanted to see—creating their own "exhibits" as they go. Some museums offer Web visitors the means to create their own "collections" online with digitized materials. A variation of this weds the physical and virtual visits by enabling visitors to the physical museum to use museum computers; on these they record items for a personalized collection they can later develop on their home computers. Either way, the process deeply enriches the museum experience, challenges the intellect, and offers more possibilities for gaining a sense of wonder from the virtual space. One potential problem, of course, is that an uninformed virtual visitor may need more guidance than is available on some websites to create a meaningful online exhibit.

The ability to link to information in many subject areas and in multiple forms so as to broaden and deepen understanding of the subject matter is one of the chief advantages of the Web. Glossaries, timelines, narratives, music, literature, maps, oral histories, related cultural and historical facts, and multiple perspectives are just some of the possibilities available in the virtual space and limited in the physical space. Sidestepping the authoritative voice and encouraging diversity of interpretation are perhaps easier on the Web as well. Links can also lead readers to alternative topics of interest.

Accessibility issues for handicapped visitors can be managed as well or possibly better on a carefully constructed website. Voice-directed search programs, for instance, can open the museum's entire website to someone unable to visit physically. A website, unlike a museum, can also be constructed entirely without images, using descriptions instead for every artifact or picture.

The ability to extend the life of exhibitions indefinitely, to arrange materials in different contexts so as to present multiple perspectives, to create exhibits that would otherwise be impossible to mount, or to recreate past exhibits—all at a minimal cost compared to that required for mounting or maintaining the same exhibits physically—makes the Web an invaluable resource with tremendous advantages over the physical setting.

Visiting the website before a physical visit optimally pre-educates the viewer so that the museum brings an intelligent, informed audience into the physical space and thereby deepens the "conversation" that can take place during the visit. (Do most viewers even understand, for instance, what to look for in an artifact or painting?) The cost of printing and distributing sufficient materials to convey the same amount of information as on the website is prohibitive. In addition, such materials are generally distributed to members, previous museum-goers (if known), and to those on purchased mailing lists, which have an extremely low return rate.

In sum, a curated exhibition on the Web can have all the impact of a curated exhibition in a physical space except for those elements which are specifically related to physicality: scale, texture, surface, three-dimensionality, and physical context. But those elements can make all the difference in memorability.

Current Innovations and Elements of Design

The University of Victoria's website, "Best Practices in Museum Web Site Design (www.uvcs.uvic.ca/crmp/museumwebsites) (2004)," suggests that users "spend eighty percent of their time using twenty percent of a website." If this is accurate, one would have to wonder why spend any time at all building a complex website. Surely a viewer visiting a site specifically to learn more about a subject is disqualified from this rule. At the very least, however, it suggests that museums must give considerable attention to what they include on a website, how it is presented, and whether it is working well.

To this effect, the "Best Practices" website poses a relevant question: "How does your museum empower and engage your visitors?" This section addresses some of the ways and means whereby museum websites are answering that question and, at the same time, creating a space that is more integrated into the overall museum mission and experience.

Virtual Tours

A virtual tour creates a moving, panoramic view of the museum, sometimes in conjunction with a floor plan. Visitors then know exactly where they are "standing," as

²⁰ Cody, Sue Ann. “ Historical Museums on the World Wide Web: An Exploration and Critical Analysis. ” <i>The Public Historian</i> 19, No. 4 (Fall, 1997), p. 39-40.

²¹ Ibid., p. 40.

²² Ibid., p. 50.

²³ Ibid., p. 23.

²⁴ McConnell, Mike, and Iain Middleton. "Exploiting Historic Connections On-line." http://www.abdn.ac.uk/~com134/publications/murex05-abstract.doc (to view, connect to the html version via a search engine)>

well as where what they are looking at is located. Not only does this technique help orient visitors quickly when at the physical location, it also enables them to see how artifacts are arranged in relation to one another. It provides a sense of scale, although somewhat disproportionately, since many virtual tours use a distorting, wide-angle lens. The tour need not be limited to room-by-room exploration. Individual displays spliced in with records for each object recreate the experience of viewing the object in context with supporting materials. A personalized virtual tour can be set up so that selected objects can be viewed together. The virtual visitor can effectively reconstruct the exhibit, rearrange items within a room, or add other objects from different rooms or from storage. (For an example of a basic visual tour, visit

http://xroads.virginia.edu/~UG03/folk/gallery1.html and then click on the site's "panorama" link. This will take you to the virtual tour. Note the Flash animation used at the bottom of the page.

QuickTime Virtual Reality (QTVR) captures the experience of an actual walkthrough by using a movie shot from the viewpoint of someone walking through the exhibit. The virtual tour might be further enhanced with audiotapes of tours, oral histories, or other relevant sounds.

An alternative to the panoramic tour is to use enlargeable photographs in a sequence or on a floor plan, but these do not convey the same sense of perspective or space. (For an example, visit http://www.jhu.edu/~hwdhouse/homewood.html.)

Streaming

A video or audio file that has been "streamed" starts loading within seconds so that the images become available before the entire file is opened. This considerably reduces the time the visitor must wait before seeing a moving image or hearing an audio file. It might be compared to reducing the time the visitor must "wait in line." Using this technique, some museums are posting video lectures on the education portion of their websites, effectively decentralizing their materials. (For an example, visit http://xroads.virginia.edu/~MA05/peltier/30sproj/automot/masterhands.html. Click one of the movies to the left to see this in action.)

Personalization Techniques

An interactive website can create models of viewers' interests, much like online shopping services do. These models can be used to help shape personal collections culled from the museum's resources, including materials (artifacts and documents) that are not on display. The Peabody Museum, for instance, uses an audio guide in the physical site that enables visitors to key in the names of objects while perusing the exhibits. Visitors can later download the information onto a computer program accessible through the museum website. The viewer essentially builds a home "library" of images and text.

Autonomy is one benefit of personalized tours:

Rather than taking the obligatory path the visitor is compelled to follow in a real museum, remote visitors to a virtual museum are free to look for, combine and recontextualize the information they need according to their interests.²⁵

According to Jonathan Bowen, author of "Personalization and the Web from a Museum Perspective," the museum benefits from this as well, both by learning about visitors' interests and by including visitors in a dialogue that can help shape the museum's exhibits and activities in the future.

Personalization systems adapt the interface for the user by collecting information provided by the user or by monitoring the user's actions through site "cookies." The latter system, however, is considered by many to be an invasion of privacy. Bowen notes that "Twenty-five percent of visitors may avoid personalization techniques due to privacy issues, and only eight percent consider revisiting because of personalization options." *Customization* enables users to employ such features as bookmarking or rearranging pages, organizing information as they please, or putting their names on a page.

Proponents of personalization and customization argue that creating content and presentations that relate to the characteristics of the user facilitates navigation, increases speed of access, and augments the likelihood of a successful search. Studies have shown that "learning is stimulated when the information is described in terms that the visitor can understand and if it makes references to their interests as well as concepts that the visitor has already encountered during the navigation/visit." Besides the privacy issue, mentioned earlier, my other concern is that personalization to this extent necessarily filters information for the user (even more than it already is), thereby eliminating the possibility of stumbling across an area of previously unknown interest. I cannot imagine how many great books I would have missed had I been limited to reading subject matter that I had already been inclined to read. Only if the broader pool of information remains available does personalization seem viable. (Many commercial sites, such as amazon.com, use a related technique when it lists items that the viewer might enjoy.) The issue might be considered a variant on the question of curatorial authority, which in this case seems in danger of being usurped by the webmaster.

By contrast, Bowen views personalization as a "communication strategy based on a continuous process of collaboration, learning, and adaptation between the museum and its visitors" 28—a way of ensuring that a populist approach will prevail.

The tactic some websites use that offers a compromise is to invite viewers to register (a process of submitting profile information, demographics, interests, etc.) and then to create their own "home page" on the site. On that page they can set up links to segments of the museum website (especially useful for pages deep in the site or focused on a particular topic), receive calendar updates, store images from a physical or virtual museum visit, create a catalogue of text and images, or write new text. The web visitor could even create a whole exhibit, drawing from the museum's archives and storehouses. Some museums have not only facilitated this but have also enabled these constituency-created exhibits to be viewed online via the main website.

The San Francisco Museum of Modern Art, for instance, had an exhibit in Spring 2001 in which Web visitors could curate a show according to suggested themes. (Options such as these might be desirable perquisites for members.) Such methods provide an innovative way to broker culture, for they satisfy the desire to empower visitors with a sense of history that belongs to them; authority is derived from the viewers themselves rather than an "elite" class.

Media

Using radio, newsreels, and videotapes as part of online storytelling can lend interest to a website, if they are truly useful (i.e., really add something that cannot be gleaned from text or images alone) and load quickly. Some museums invite the community to send in artifacts, written or audiotaped memories, and/or photographs that create a collective memory from a personal one; these are digitized, stored in the archives, and made available online. Such an exhibit "interweaves family memories, news, and history." (For an example, visit

http://xroads.virginia.edu/~1930s2/Time/marcy/1940.html, to see a timeline that uses clips of old radio files and newsreels to help tell the story of the year 1940. Go to January, Arts and Culture, to listen to "Abbott and Costello"; go to October, Science and Technology, to see a newsreel of the Tacoma Bridge collapse; go to July, World, to listen to William Murrow's radio account of the London Blitz.)

The San Francisco Museum of Modern Art in 2002 began a series of programs specifically designed to enhance visitors' experiences on the Web and in the physical space as a result of pre-education through the Web. The project, "Bridging the Gap: From Real Art to Virtual Learning" included one such program that was interactive, multimedia, and educational called "Making Sense of Modern Art." It makes use of many of the techniques mentioned in this section. (To see this program, visit http://www.sfmoma.org/grants/imls/index.html#.)

Animation

For younger audiences, animation can make learning about history more fun. (For an example, visit http://www.animatedatlas.com/ssss/movie.html.) But it easily crosses the line from edutainment to entertainment. On the other hand, using animation to show three-dimensional views, relationships among objects, or changes in materials over the years are some options that may provide more information than viewing the object alone (either virtually or physically).

Three-dimensionality

The techniques for digitizing three-dimensional objects so that they can be seen from multiple angles range from click-and-turn models that simply show photographs from a different perspective to videos of an object turning. Some medical and science lifelike, but the technology is beyond the reach of most museum budgets at this time. Eventually, however, the lack of dimensionality on the Web may be less of a problem than it is now. For some museums, combining virtual tours with three-dimensional animation or STL may enable visitors to "walk around" objects that must now be placed against a wall, in a corner, or in an alcove due to lack of physical space. (For examples, explore the website for Digital Morphology at the University of Texas, http://www.digimorph.org/.

E-postcards

Some museums offer an option to send a free "e-postcard" to a friend. The visitor selects a card, typically a representation of an artifact or art work, and writes an e-mail

that is delivered from the site. The recipient receives the picture and the message; the museum Web link is automatically included.

The current use for this technique is limited to free advertising. The museum could use the technique to send a trail of "clues" about an artifact or exhibit that would work together to contextualize the artifact. The recipient could collect the "postcards" and plug them into an interactive site to get more information, solve an archaeological mystery, use to unlock related maps, and so forth. They could also be used by the museum to preeducate and post-educate the viewer.

Combining Exhibits

The Textile Museum of Canada and the Gardiner Museum of Ceramic Art combined two collections online in an interactive exhibit, "Cloth and Clay: Communicating Culture" (http://www.textilemuseum.ca/cloth_clay/home.html). Maximizing the "exploratory, unrestricted nature of the Web," the website enabled visitors to select items from a "Let the Objects Speak" segment that gave information about the object from a third- or first-person voice (http://www.textilemuseum.ca/cloth_clay/obj_main.html). For instance, clicking on one piece of cloth triggered a voice saying, "I have the privilege of being the oldest textile in this exhibit." A joint venture such as this one provides a way for small to medium-sized institutions to reach a wide audience and to expand their exhibits beyond the restrictions of their material collections. This idea could prove especially helpful for subject areas with limited artifacts, such as African American history.

Deepening the Hierarchy

Rollovers, pop-ups, links (both internal and external), and Flash (animated images) provide ways to expand the information presented about any subject. Dragging the cursor over a map of railroads in the 1870s, for example, could "roll over" to a map of highways in the 1930s so that the history of transportation could be traced visually. This in turn could be tied to artifacts in a transportation museum. In addition, the images of the artifacts might be placed on the map to show where they were made. Clicking on an image or word could link to a brief explanation or definition (via a pop-up), another exhibit, text about related subject matter, or to an outside source. The Web makes it possible to dig deeply into a subject using a host of methods and to expand upon the presentation of artifacts within the physical site.

(For an example of a rollover, visit

http://xroads.virginia.edu/~MA05/macdonald/currier_ives/bigships2.html. For an example of using Flash to provide additional information in a visually interesting way, visit http://xroads.virginia.edu/~UG03/folk/gallery1.html. Clicking on one of the moving images will take you to an enlargement of the painting and related information. The website author could have added suggestions about how to look at the painting to appreciate it more, or even included a discussion on why the painting is considered "art." Another way to use Flash is as a link that serves double-duty by providing imagery that is relevant to the subject matter. For an example, visit

http://xroads.virginia.edu/~1930s/FILM/filmfr.html. For an example of using pop-ups to expand the information provided on a subject, visit

http://xroads.virginia.edu/~MA05/macdonald/currier_ives\intro_nost.html. On the new page, scroll down until you see and can click either *mythos* or *lithograph*.

Edutainment

Interactive games, storytelling modules, puzzles, and animated characters from history are some of the ways that museums are using the Web to blend education and entertainment. Creative play, role-playing stories, interactive mysteries, and simulation are other types of interactive resources. Creative play helps develop observational and hand-eye coordination skills, while puzzles and mysteries stimulate critical thinking skills. Role play puts the viewer inside the story and brings a populist twist to the presentation of history.

For instance, at one point the Virginia Museum of Fine Arts had a section on their website called, "You're the Expert." This section asked viewers to solve real-case scenarios, such as issues of authenticity, and compare their responses to those of the staff. One scenario asked visitors to determine what information would be most interesting for inclusion in an object label, thereby addressing directly the controversial issue of label writing and curatorial authority.³¹

Studies conflict as to whether passive or active approaches work best on the Web. A 2001 IBM-funded study noted passive preferences in a small study limited to employees aged 21-55 and limited to one topic. A 2002 study designed by David T. Schaller, et al, found that while adults prefer straightforward cognitive information, interactive reference or simulation, children prefer motivational strategies such as role-playing stories. (For examples, visit the website for Educational Web Adventures [www.eduweb.com] for numerous examples of innovative edutainment being crafted for museum websites.

Education

Some websites offer lesson plans that use both virtual and physical museum spaces to teach segments on history. These tend to include detailed information about events, people, and culture of a given period, supplemented by images from the museum, writing exercises, vocabulary assignments, and the like. The Colonial Williamsburg Foundation, for instance, in 2005 was offering electronic field trips (for a fee) that include diverse activities such as selecting materials to supply Revolutionary troops, taking a personality quiz to compare decisions with that of a colonial civilian, and making videos. (Visit http://www.eduweb.com/portfolio/soldier/index.html for information.) Interactive sites such as this can teach "complex cyclic, structural or relational concepts by immersing students in credible microworlds [. . .] [that] convincingly 'transport' students through time to historical sites; through space to the museum; or through their imagination to fictitious and fantastic worlds." Audio-visual materials and interactive technologies are essential components of a realistic but simulated environment. Videoconferencing and projects facilitated between chat rooms and actual meetings with curators can supplement the field trip.

Another possibility that I did not encounter (but that might be employed somewhere) is to create a virtual exhibit specifically tailored to a class's history lesson. A teacher could work with a curator and, delving into the archives, fashion an exhibit of relevant artifacts and text for nearly any period of history. If several museums collaborated, a

group of teachers and curators could generate cross-disciplinary courses that present history as far more than a string of political and economic events.

(For an example of a website providing writing exercises tied to an examination of art in the context of history, visit

http://xroads.virginia.edu/~MA05/macdonald/currier_ives/writing.html. While this website is entirely virtual, the same approach would be effective in a website for a physical museum.)

Post Visit

Some museums place an interactive computer in or near an exhibit so that visitors can log in items or questions to investigate once they are home again and can take more time. It is even possible to record a layout of an exhibit, those sections visited, and those still to visit.³³ Presumably the post-museum virtual visit would further enlarge understanding of the subject matter and even encourage another physical visit to address a new set of questions.

Guralnick's concept of "infinite hierarchical depth" is an essential element in a post-real-time visit. A follow-up virtual visit is an ideal way to contextualize the material further and move deeper into the topic.

United States Holocaust Memorial and Museum

The Virtual Visit

The U.S. Holocaust Memorial and Museum was the first museum I investigated. My initial visit to the website took place on November 18, 2004. (To see the page from that date, visit http://web.archive.org/web/20041118092214/http://www.ushmm.org/.) At that time, a large banner across the top fourth of the screen announced the "Genocide Emergency: Darfur, Sudan." Because the graphics were prominent—black type on a red background, as I recall (it did not print, so I rely on memory)—I focused on that headline. My "seven-second" thought was that the museum's primary exhibit at the time was on

²⁵ Giaccardi, Elisa, and Fondazione Fitzcarraldo. "Memory and Territory: New Forms of Virtuality for the Museum." < http://www.archimuse.com/mw2004/papers/giaccardi/giaccardi.html >

²⁶ Bowen, Jonathan P., and Silvia Filippini-Fantoni. "Personalization and the Web from a Museum Perspective." < http://www.archimuse.com/mw2004/papers/bowen/bowen.html > ²⁷ Ibid.

²⁸ Ibid.

²⁹ Giaccardi, Elisa, and Fondazione Fitzcarraldo. "Memory and Territory: New Forms of Virtuality for the Museum." http://www.archimuse.com/mw2004/papers/giaccardi/giaccardi.html

³⁰ Dalyrymple, John, et al. "Developing Meaningful On-Line Exhibitions: Cloth and Clay, Communicating Culture." < http://www.archimuse.com/mw2004/abstracts/prg 250000759.html>

³¹ Glasser, Susan. "Museum Applications of the Web: Experiences New Ideas/New Audiences." http://www.archimuse.com/mw97/speak/glasser.htm >

³² Sumption, Kevin. "'Beyond Museum Walls'–A Critical Analysis of Emerging Approaches to Museum Web-Based Education."http://www.archimuse.com/mw2001/papers/sumption/sumption.html.

³³ Bowen, Jonathan P., and Silvia Filippini-Fantoni. "Personalization and the Web from a Museum Perspective." http://www.archimuse.com/mw2004/papers/bowen/bowen.html

Sudan. Down the page was a link to read more about the emergency. Scrolling further, near the bottom of the second page, I found a link to a photo essay and commentary for "Sudan: Staring Genocide in the Face." I was confused by why this was so far down if it was the main topic, whether this was a different exhibit, or an online exhibit of related materials.

Scrolling back to the front page, I determined that the next most prominent feature was the "Arthur and Rochelle Belfer Exemplary Lessons Initiative," an invitation to submit a lesson. It was linked to more information, as well as to "What's New—See Entire List." Beneath this section were sixteen boxes with graphics, titles, and short summaries of various programs, papers, events, exhibits, and so forth.

At the top of the page was a search feature, "What Are You Looking For?" On the left side of the page was a detailed menu with five sections; only the first two showed up on my screen without scrolling. All together there were seven sections with fifty-nine subheadings. Reading through the lists took a while and left me still unsure how I wanted to proceed. It was evident, however, that the website was deeply layered and intended to educate in a direct manner about both the Holocaust and genocide.

Visually, the home page was out of balance and busy. I felt overloaded with information before I even began exploring. The museum's essential mission (Education, Remembrance, Conscience) was only generally evident.

I decided first to clarify the question of current exhibits and scrolled down until I found "Exhibition Information" beneath "Inside the Museum." I realized then that "The Holocaust" was the main and the permanent exhibit. A long scroll took me to the other exhibits. Two of the three had links to online photo archives, and one had a video with a "RealPlayer" download to ensure accessibility. The graphics and text were on the middle and right of the screen and left an extended section blank.

The menu to the left offered navigation for within the section, a button at the top took me back to the home page, and a navigation bar at the bottom offered links to "Museum Information," "Education," "Research," "History," "Remembrance," "Conscience," and "Join and Donate." I noticed that two links in two different sections, each with a slightly different name ("Museum Exhibitions" and "Exhibition Information"), were highlighted, even though I had just been to one section. I checked and learned that they were one and the same except for the titles.

I next did some general exploring in the "History" category; I clicked on "Introduction to the Holocaust," which was called "The Holocaust" on the page it took me to. The main section's menu at the bottom of the page disappeared in the "Holocaust Encyclopedia" section. A link to "Contents" took me to an extensive list of articles offered in three languages. I encountered similar navigational problems throughout the site.

An informative overview of the Holocaust took into account not only Jews who had died, but also the many other groups who were persecuted by the Nazis. The section had many links to related topics, such as an article, "Jewish population of Europe in 1933." This section, like others, further linked to related articles, maps, photography, personal stories, artifacts, videos, and songs. Unfortunately, the "Play this Music" feature did not work on my browser, although I have all the necessary files.

Some of the linked articles came up as a separate pop-up window, which made it easy to get back to the main page of the category. Others took me to sections of the Encyclopedia. After a few such detours, I was hopelessly lost in the hierarchy that could get me back, and resorted to the home page link to start over. A "breadcrumb" navigation tool would have been inordinately helpful; this kind of system displays the history and hierarchy of your links in an obvious place, such as the top of the page.

Jumping from section to section, I read for several hours abut the Holocaust. The articles were well written, clear, cohesive, and compelling; they seemed to lose nothing by being read out of order. All were well supported by statistics and rounded out by personal stories. My sense was of a well-balanced medley of authoritative and populist approaches. I read so much that I felt exhausted and quit to explore the website on a second visit.

I used the subsequent visit to get details about the hours, location, and directions. This section, located under "Inside the Museum," also linked to a "Teacher Guide to the Permanent Exhibition" on the same page as "Entry and Hours," as well as a calendar link, "Frequently Asked Questions," contact information, and more. As in other subsections, the only back button was through the browser. While using the back button is current practice for returning to the previous page from a link, access to navigation to all the main sections is also current practice, and this was not always readily available at the time. (In this website, I opted to go against current compliancy code to make the navigation easier, since the website has so many outside links; for these I have created a link to a separate window. Internal links and graphics use the back browser button to return to the page.)

The "Inside Education" section was extensive. The museum's dedication to community outreach was evident here and throughout the site.

I had problems printing some pages. The margins were set too wide for my printer, pages split unevenly (dividing graphics), graphics did not always print, and often I got pages that said "Page 1 of 1" and contained only the website address. When I printed out the "Special Focus" section, I got a message saying that it was "Page 1 of 586." (Needless to say, I aborted the printing job.) PDF versions of articles would have helped resolve this problem.

Given the complexity and extensiveness of the site, I think that I could turn to it whenever I needed a resource for myself or my family on any aspect of the Holocaust, even though I was reasonably well versed on the subject already. In addition, once I was familiar with how to navigate the site, the experience ceased to be so frustrating. The sections on "Site Navigation" and "Accessibility" were helpful as well, and I wished I had thought to investigate them immediately.

Having access to the additional materials provided a much fuller story, one not just of facts, dates, and horror, but of real people who led lives that parallel mine.

The Physical Visit

Nevertheless, I was unprepared for the power of the real-time visit. From the onset, it was a different experience from any museum I had ever been to. I stood outside on a rainy, cold November day and listened to a voice on a loudspeaker announcing rules while I shuffled toward a steel, glass, grey, prison-like structure, more reminiscent of an

armament battery than a museum. Holes along the top of the walls looked like they were built for guns. The illusion was suppressed but not dispelled once I was inside and attending to the practical matter of a pass.

In "The Poetic Image and Native American Art," Patrick T. Houlihan discusses the deeply emotional response that does not come from the brain but the soul. It does not require an analytical construct but resonates immediately, as a poem through its exuberance seizes the imagination.³⁴ The architecture of the U. S. Holocaust Memorial and Museum, the quiet inside the building as we neared the elevators that would take us to the exhibit, the clanging of the doors as they shut on us, the whispering crowd suddenly hushed as we "proceeded through time to the back door of the Holocaust"—these elements offered a very dark poem indeed. We were not allowed in without a pass and a security card, we had to wear the identity of a victim of the Holocaust as our badge.

Every reason ever given for why a virtual museum cannot replace an actual museum holds true for the experience of visiting the U.S. Holocaust Memorial and Museum. The sensory, emotional, and intellectual reactions to the exhibit cannot be replicated by staring at a screen. The phrase "multimedia presentation" is insufficient to explain what is more like an immersion experience. As the crowds unloaded from the elevators and entered the main exhibit space, everyone, without exception, was immediately silent. Everything I saw was not just through my own eyes, but through the group's eyes. A large quotation plastered across one wall met our communal gaze; it explained what we were doing there:

The things I saw beggar description . . . the visual evidence and the verbal testimony of starvation, cruelty and bestiality were . . . overpowering . . . I made the visit deliberately in order to be in a position to give first-hand evidence of these things if ever, in the future, there develops a tendency to charge these allegations merely to 'propaganda.'

We were not museum-goers, we were witnesses. We were there so no one could forget.

Being in the crowd, hearing the shuffle of feet—people were practically tiptoeing—and moving en masse to the first section was as far as you can get from clicking a mouse to move to the next topic.

A film, "The Nazi Rise to Power," broke the hush. Maps, newsreels, artifacts, simultaneous films, photographs, and audio tapes of survivors telling their stories all contribute to the sensation of stepping into another world. Yet because the text and materials take visitors "through" time while they are moving through carefully constructed walkways and rooms, the sense is not of a frozen past removed from our own time. The faces and stories are too real. A film, for instance, projected life size and showing children reading propaganda, is chilling.

The somber lighting, the narrow pathways, and artifacts that you can walk through and under work together to recreate the grave mood before and during the war.

Standing inside a "cattle car" that was used to deport victims to the camps was eerie. I had seen pictures of such wagons in books and on the Web, but I only realized how dark, smelly, and confining they were once I was inside. Throughout the museum, I was aware of textures, colors, and scale as meaningful elements of the story unavailable through the Web. Although materials are lit well enough to see clearly, most of the space is dimly lit,

heightening the sensation that this is hallowed ground, sacred space—a memorial as well as a museum.

The artifacts are arranged thoughtfully, their juxtaposition lending another shade to the story. A Roma wagon, for instance, is situated next to details about the persecution of Romas; a nearby case features Roma clothing and comb. The inscription reads, "The woman who wore these combs was forcibly sterilized." By attaching stories to material objects and photographs, every item echoes the devastation of genocide.

At one point I was looking at a gate that had closed on women and children who were about to be murdered by the Gestapo. Beside me stood a middle-aged, African American woman who exclaimed aloud at the horrors described. When I heard her gasp, I turned to her. Facing each other, I saw that we were both crying. That momentary connection transcended everything in our individual lives and brought us together—an experience unavailable in the isolation of the Web.

Although I was not on a tour, I followed a specific course through the exhibit, as the exhibit path was narrow at times and always aimed in a particular direction. The curators largely controlled what viewers saw and in what order. A website experience is typically uncontrolled; viewers jump from page to page in any order. The Holocaust exhibit would not have made the same impact if the way visitors viewed it had been random. This was the most controlled, orchestrated exhibit I have ever attended, and the manner in which it was arranged was essential to the experience. This unabashed curatorial control runs against the populist ideology of many museums, yet it clearly works. The experience intensified from one room to the next, until it seemed as if I were seeing all my own friends, families, and neighbors annihilated. I learned a lot, but I felt a lot too.

My only frustration with the exhibit was the size of the crowd. Frequently I could not get close enough to read materials or see artifacts. I also had to skip some sections altogether as the crowd pushed me past; it moved faster than I wanted to. Nevertheless, I was able to linger in the shtetl tower, where photographs from the now non-existent village of Eishishok reach three stories. I could read the names of victims in the passageways between galleries, and I sat alone in a memorial room between sections. Few people ventured into the Museum's Hall of Remembrance, and it was a serene, well-lit space in which to contemplate the experience of the main exhibit.

The other exhibits—"Deadly Medicine: The Master Race" and "Remember the Children: Daniel's Story"—were not as controlled as the main exhibit in the sense of how the visitor toured them, but the text was still explicit. Nowhere did I perceive any reluctance to tackle harsh facts, even if controversial.

All in all, the real-time visit to the U.S. Holocaust Memorial and Museum was the most moving, well-rounded, and comprehensively educational experience I have ever had in a museum. Without a doubt, the treatment exemplified Greenblatt's notion of "resonance"; the museum is indeed sacred space.

Further, the exhibits successfully addressed issues of multiplicity by examining the effects of the Holocaust on numerous peoples; it made history relevant by directly asking how viewers would respond in the same situation and linking the genocides of World War II with current events; and even though it was authoritative, it brought in voices of the people. Both the virtual and physical spaces were in accord on these issues. In

addition, neither space succumbed to any aspect of edutainment; the education offered by the U.S. Holocaust Memorial and Museum is diametrically opposed to "Disneyfication."

The Follow-up Web Visit

When I visited the website afterwards, I looked up a few items I had questions about. This time, I sometimes had trouble seeing the whole page or printing any of it, depending on which browser and type of computer I was using. The home page had changed to one announcing the "Deadly Medicine: Creating the Master Race" exhibition in what might be considered the billboard space. (It has changed since then as well.) The website functioned as a generally useful follow-up resource, but it did not otherwise add to the experience.

Recommendations

If after I had viewed "The Holocaust" exhibition I could have explored a post-exhibit project that allowed me to reread (or read) at least key points throughout the exhibit, it would have helped solidify the material, much of which I missed due to the crowd and how long it takes to walk through the exhibit. This material may already be online, but if so, it was not apparent to me how to find it. In no way would being able to read the specific details ahead of time or afterwards detract from or compete with the impact of the physical exhibit. It would, however, help fill in some missing pieces.

A post-exhibition section could also include topics such as "Things to Think About," "Additional Subjects/Resources to Explore," "Related Projects," "Post your questions and responses," or any other of a number of activities directly tied to the exhibit and designed to carry on the dialogue. One critical component of the physical experience was how tightly it directed the visitor through the exhibit. I see no point in trying to duplicate this on the Web, but it does raise the question of whether a similar approach could be tried in the virtual space. If a linear option were offered, for example, it would help viewers put the pieces together so they make a complete picture. One directory might take the viewer on a "tour" through linked pages, for example. A timeline that was linked to points in the exhibit would recapture some of the linear approach as well.

Specific artifacts could be photographed and located on a map on the Web to show where they came from. This would have several benefits. It would clarify the extent of Nazi terrorism and at the same time provide a contextualized geography lesson. Likewise, the routes of the "cattle cars" could be animated on a map. Rollovers could provide additional information about the trains, where they went, with whom, how often, and when. For the sake of creating perspective, a comparison to recent acts of genocide (also linked to maps) would be enlightening. The possibilities for contextualizing the artifacts are endless.

As for the way the website is currently designed, giving prominence and clarity to the main exhibit of the museum—in the top third of the page—would focus the home page and clarify the museum's mission for the viewer. Even dedicating the whole home page to the primary exhibit in a way that was clear, dramatic, and concise, while also indicating that there are other exhibits and resources, would work well. An "Enter" link could take the viewer to a comprehensive site index. Other issues are problems with navigation, sensory overload, long pages, and printability. With five million virtual visits and two million

real-time visits, ³⁵ the U.S. Holocaust Memorial and Museum is in no danger of closing its doors to lack of interest, but even the few glitches I noted can be enough to send someone "surfing."

The National Museum of the American Indian

The Virtual Visit

I visited the website for the National Museum of the American Indian on November 14, 2004. (To view the page as it was then, visit http://web.archive.org/web/20041114092955/http://www.nmai.si.edu/.) The home page showed a picture of the museum on a yellow background; it was visually well composed and attractive. A search function and a link to a site map on this page were handily located at the top of the page, along with a menu for the "Calendar," "Press," "Employment," and "Book Shop." The main menu was along the left and in larger print. It provided links to "Visitor Information," "Exhibitions," "Events," "Outreach," "Education," "Collections," and "Support." There was no indication on the home page of what the museum's mission is, what its exhibitions are, what its focus is—in other words, there was no content. At least there were directed links—some public history museum websites that I visited during my research had nothing but an image and a name on the front page.

The website for the National Museum of the American Indian treats many of its pages like a canvas or colorful magazine. Bright blue, russet, and yellow are used to tie the sections together visually, even though each has a slightly different banner at the top. Subheadings within sections share the same banner, which kept navigation clear. I sometimes had trouble printing pages, with images and text being cut off on the right, but that varied with the browser. The graphics on the home page would not print, however.

I found the Mission Statement under the heading "Press," which is a section I normally would not search. A primary goal of the museum is "[...] to protect, support, and enhance the development, maintenance, and perpetuation of Native culture and community." One way this goal is to be accomplished is by presenting all aspects of the exhibitions and programs "from the Native perspective—'in the Native voice." It was not evident whether the website was developed in the same manner or how one could tell if it were.

The section for "Visitor Information" seemed a logical first choice to visit. This provided information about the location, cost, and hours for the various locations of the museum—until then I had not realized that there was more than one museum under the same name. Since I intended to visit the museum in Washington, DC, I clicked on that image and got a page with practical information such as driving directions. A subheading, "Inside the Museum," took me to a section that described each of the current exhibits in

³⁴ Houlihan, Patrick T. "The Poetic Image and Native American Art." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 208.

³⁵ Swiader, Lawrence. Director, Outreach Technology, United States Holocaust Memorial Museum. E-mail to Marcy McDonald, 1/9/05.

detail and provided one or more colorful images pertinent to the exhibit. (Or so I assumed; the images were not labeled.)

After some exploring of the website, I discovered that the most educational section of the website was its online exhibition section. (The section entitled "Education" was directed at schools and organizing school trips.) These online exhibits varied considerably, however, in how genuinely informative they were. Overall, the text conveyed a sense of restraint and detachment, especially after the U. S. Holocaust Memorial and Museum, which was nearly brutal in its details. Some of the online exhibits were unavailable, and I encountered various navigation problems with several of them, such as segments not working, back buttons not linking to the home page, or no link to the home page. On the other hand, many took advantage of the variety of techniques that make the Web so rich, such as video, audio, and animation.

"All Roads Are Good: A Virtual Tour of the National Museum of the American Indian Exhibition" intrigued me, since it promised both to take advantage of current technology and to give me a tour that might help before I visited in real time. This exhibit was created by students from several schools, and it brought up a screen with two primary sections. On one was a floor plan of the exhibit, and on the other was an inset of the exhibit itself, which I could virtually walk through. Some of the objects in the cases were identified. I had trouble manipulating through the space, however. Additional windows popped up and overlapped one another, blocking the view. The written descriptions provided by the students told me more about the nature of the artifacts than had the previous online exhibit ("First American Art"), which was useful. Because of technical problems, however, I soon left that site.

I entered the "Ancient Mexican Art" site, a past exhibit (as many of these were). The front page for this site gave the dates for the original exhibit, offered a choice of two languages, and warned that a Flash plug-in was necessary (and available) to view the site. The site's images shifted when I entered it, which was visually disturbing. The introductory page offered an option to increase the text size and had a small menu that indicated where I was in the site. I had to close the window to get back to the main museum pages. (In other words, a "back" button was not available.)

The content of this online exhibit was displayed in the center of an artistically framed page with crisp, contrasting colors and legible text. The introduction gave a terse but comprehensive overview of Mexican art, noting what facts the curatorial "we" were certain of and what was speculation. The text was sensitive to multicultural and multiethnic concerns. The section on the collection itself had enlargeable thumbnail images of high-resolution photographs of artifacts. It also had subheadings with brief paragraphs about the category, such as "Daily Life." The artifacts were captioned simply, noting what they were, as well as when and where they were made. The exhibit seemed to reflect the museum's mission in the way it handled the subject matter, although it was unclear whether Native Americans had been involved in curating the exhibit.

I took a closer look at the current exhibitions page for Washington. The page was long with large, blank areas; color photographs in a middle column helped reduce the sense of wasted space. The museum's philosophy to involve the peoples being studied in presenting their own histories was evident in the descriptions of one exhibit in this section, "Our Universes: Traditional Knowledge Shapes the World." On the other hand, I

had no idea what I would actually see in the exhibit, other than artifacts such as the beaded, undescribed pouch beside the heading.

A second exhibit, "Our Peoples: Giving Voice to Our Histories" indicated that it was a linear narrative with a Native American perspective, and it conveyed a hopeful tone: "But the story of these last five centuries is not entirely a story of destruction. It is also about how Native people intentionally and strategically kept their cultures alive." With its bright and cheerful color scheme, the design of the American Indian museum website reflected this optimism.

A third exhibit, called "Our Lives: Contemporary Life and Identities," had a contemporary object (painted sneakers) beside its heading. The description reminded me of the one for "Our Universes" because both exhibits draw from eight communities, but involved different tribes and focused more on identity.

The fourth exhibit, "Native Modernism: The Art of George Morrison and Allan Houser" struck me as a standard art exhibit, albeit one deriving inspiration from Native American ideas (although that was not obvious from the accompanying photo of a sculpture).

I discovered by accident that the "National Museum of the American Indian" title in the upper left corner took me back to the home page; it did not always work, however, but knowing this was quite helpful, since some of the online exhibits had taken me out of the website and into the Smithsonian's.

I could not find a fact sheet for the museum (although I came across two for other centers).

The Physical Visit

A long line and cold wait preceded my getting into the museum. Physical discomfort and a long drive were two obvious differences between my virtual and real-time visits. Even though it was chilly, the crowd was friendly and obviously excited to be going to the museum, which had been open less than a month at the time. A "timed entry pass" was available online or by phone (via an outside server), or one could be obtained at the door. Admission is free.

The main hall of the museum opens up four floors like an atrium. The circular building is centered around a performance area. A grand staircase spirals to the top; it looks like the cutaway of a shell. The interior space created a light, freeflowing environment, and it seemed a space meant to be, if not hallowed, then certainly impressive and reminiscent of natural forms. These forms, in turn, seemed to echo the cultural values of American Indians as presented in the museum. The space also reminded me of the website, with its bright tones and visually balanced composition.

When I arrived, the steps, the copper half-wall surrounding the performance area, and the seats curving around the center were jammed with people, from babies to elderly. The museum buzzed with movement and conversation which lessened as a tribal dance group began performing. Unfortunately, the introductory explanation was perfunctory, and although the dances were interesting, it seemed as if the observers and the dancers were culturally distant from one another. It brought to mind past museum interpretations that treated the culture under study as "other," distinct from the dominant hegemony—or in this case, distinct from the audience. The dances were isolated from context and, to me,

meaningless as a result. It was a Disney/Discovery channel sort of experience, and I felt disappointed not only for myself but for the dancers.

I had ended my virtual visit with the idea that the exhibits would be laid out more or less the way I had read about them, but that was a false impression. A directory displayed the location of the exhibits, and a brochure (which used many of the same images of the website) clarified that the three main exhibits (*Our Universes*, *Our Peoples*, and *Our Lives*) were permanent ones. Whether the use of the same images helped me remember the exhibits better or made them seem more generic was a question I could answer affirmatively both ways.

I climbed the stairs to the fourth floor (an elevator was also available) so that I could appreciate the open space and watch the crowd on my way up. The first exhibit I came to, "Many Hands, Many Voices: Peace Medals and Tomahawks" was not one that had been listed on the website, at least not in the primary list of exhibits. It was set up in a broad, well-lit space not far from the landing. The crowds did not prevent my getting fairly close to the display case, although some of the artifacts were difficult to see because of the glass. The museum provided an interactive touch screen, however, where you could select and magnify items. The screen displayed basic information for each item: the object's name, culture that made it, place of origin, date, materials, dimensions, and catalogue number. It provided no information about the artifact's meaning or importance, however.

The case display showed photographs of Native Americans wearing peace medals and provided a cohesive narrative about the medal-giving tradition. A series of maps traced peace medal activity and put them in context of Indian fighters, the westward movement, and the reservation period. It gave me a thoughtful portrait of a segment of culture during a certain period of history. The main benefit of seeing this exhibit live was that I could absorb it all at once, as opposed to scrolling through the same information on a small screen.

Nearby was another display case, also not mentioned on the website, featuring "Animals." It did not disturb me to find small exhibits that I had not been made aware of previously via the Web, but someone with a particular interest in these subjects might go to the museum just to see them, had they been alerted to the exhibit.

Four paragraphs on "animals that were, and remain, important to Native people" (as depicted three dimensionally) were signed by a curator. This case was less well lit than that of the peace medals, making the objects difficult to see, and it was packed with artifacts. Another interactive display was located in front of this case. The ability to magnify portions of each object was the chief distinction between the real-time and virtual visit, although a Web page could have been created for the artifacts that erased this minor distinction. The artifacts were not arranged and described in a way that told any sort of historical story; doing so would have made their presentation more compelling in physical or virtual space. Other than the curator's notes, no context was given, and there were so many artifacts that they were in a way meaningless—like so many pebbles on a beach. As Spencer R. Crew and James E. Sims noted in "Locating Authenticity: Fragments of a Dialogue," when objects are "removed from the continuity in time and space and made exquisite on display, [...] objects are transformed in the

meanings that they may be said to carry: they become moments of ownership, commodities."³⁶

The next exhibit, "Our Universes: Traditional Knowledge Shapes Our World," was accompanied by a signed curatorial statement (all the statements were signed throughout the museum). One aim of "Our Universes" was to "discover how Native People understand their place in the universe and order their daily lives." The hallway was curved, and exhibit segments spiraled off them, reinforcing the sense of walking through a Nautilus shell. The area was dark, and a simulated Milky Way twinkled above. The physical space was not at all like being outside, but it certainly made me think about being outside. Nonetheless, the effect was somewhat hokey (a Disney effect). A voiceover, spoken by elders of one of the tribes who had contributed to the exhibit, said, "Our universe is constructed by an earth-shaped bowl and a sky-shaped bowl." The space was built to reflect that sensibility. Architecture and interior design again brought something to the physical space that could not be created in the virtual space.

Each section was designed to show some aspects of a tribe's universe. Some of these had music, films, or voiceovers in English and Native languages; some were built like a native dwelling, such as an adobe or lodge; some contained traditional clothing and artifacts; some displayed contemporary objects. Wandering with other people from section to section, sometimes unable to get close to the materials or pushed past a tableau before I could read the curatorial remarks, I often felt confused and frustrated. I had no clear sense of what the sections were supposed to be teaching me, if they were related, or whether they were supposed to be related or teaching me anything.

In "Exhibitions as (Art) Form," Barbara Fahs Charles points out that "anything goes" when it comes to getting the concept across in history museums (and, I would add, their websites). If elements are well situated, visitors move naturally from one area to the next. The challenge is to enhance the artifacts and underscore the concept, while guiding visitors through a related architectural space without fatiguing them. The suggests that ultimately, viewers and critics must ask: "[D]oes the show work as a whole? Does it have a unity not only in the artifacts, but in intellectual conception and design? Is the sum greater than the parts?" Disoriented and frazzled after this exhibit, I had to answer "No." Were it a website, I would have skimmed and skipped sections, if indeed I had spent more than my seven seconds. While it seems possible that the intent of the exhibit's design was to persuade visitors of the diversity and individuality of the various tribes, that meaning could only be guessed at, not confirmed.

Fortunately, some items made this exhibit worthwhile simply because they were singularly impressive. One case, for instance, held artifacts that were displayed in such a way that I could see details that I would have missed on a screen. Blue moccasins decorated with a pair of black hands and white nails were beautiful and meticulously crafted. A "Roach" headdress of porcupine "hair" (quills) was simply amazing, as was an eagle feather "bonnet" that was at least six feet long, placed near a heavy silver belt. Compared next to my own body, their size and weight made them meaningful. They became items that people *wore*, not just artifacts.

Svetlana Alpers argues in "The Museum as a Way of Seeing" about "the museum effect—the tendency to isolate something from its world, to offer it up for attentive looking and thus to transform it into art like our own [...]."³⁹ Certainly that occurs, but it

can also be argued that in some sections of the National Museum of the American Indian, it is only in isolation that we can truly see certain items. Some of these, such as the eagle feather bonnet, had transformative powers for their original owners, and the museum setting conveys that. As Greenberg notes, "[...] artifacts [...] have an amazing emotive power of their own because they are real."⁴⁰ And Houlihan elaborates further:

[. . .] not all parts of every exhibit of Native American art, culture, or history should 'possess' the viewer, but a part of them should. And the secret to doing this may lie in the use of Native American people—artists (or 'poets') from the culture involved—to force us to rethink how we create exhibits or portions of exhibits that both resonate and reverberate in our viewers, bringing forth some of the essential meanings in Native American cultures.⁴¹

The museum's approach in both the virtual and physical space reflects this ideology, although the success of its implementation was inconsistent. According to Houlihan, that is acceptable.

As I walked through the exhibits at the National Museum of the American Indian, I realized that "resonance," as it reveals essential meanings in cultures and history, is what truly distinguishes the virtual from the physical museum visit. Although some sections made more of an impact than others, throughout the museum I experienced moments of essential, poetic meaning.

The exhibit "Our Peoples" is the only one that attempts to tell a linear story covering a broad expanse of time—five centuries. It addresses the story, according to the curator's notes, "from the vantage point of the original Americans. The introductory areas reveal how Indians have struggled to survive and explain why so little of this history is familiar." As indicated on the website, the emphasis is not on laying blame, but rather on providing facts that have been overlooked. The curving walls display different aspects of the story, such as "Contact," "Invasions," "Making History" and "God's Work." The artifacts are arranged thoughtfully and artistically; they work together to convey a stronger impression than they would if viewed in isolated cases. The display of gold objects, for instance, looks like water currents flowing through the cases; they reminded me of the natural forms used throughout the museum. The positioning of artifacts throughout the display was elegant; the text was compelling, poignant, and factual without seeming too authoritative. The effect met the criterion laid out by Crews and Sims: "the best use of artifacts is when their history precisely matches their use within an exhibition; it gives added force to the argument."⁴² It was an exhibit that could not be recreated in virtual space with any semblance of the true impact.

For purely personal reasons, one moment in the whole visit stands out. In the exhibit, "Our Lives: Contemporary Life and Identities," there was a wall of life-sized portraits. "What we look like" was the theme. The portraits were hung at eye level, so the experience was that of looking into many individual faces. I came stock still at one woman's face—"Marty, Southern Ute." She looked exactly like my mother, whose parents were both part Native American. I had just read about conflicting earlier government policies that had discriminated against Native Americans for a host of reasons, using the "one-drop-of-blood" rule on the one hand (which would have affected my life and my son's), but on the other hand made it difficult to be acknowledged as a Native American without sufficient "proof." Here was an unexplored facet of my family's history; I never

would have felt the same emotion or sense of recognition had I been viewing a small version on a monitor or come across the information in disparate sections of a website. Juxtaposition of images, texts, and artifacts, as well as scale and physicality, can make the difference between a detached understanding and a deep connection. On a purely intellectual level, however, a virtual exhibit of the same material could have effectively connected the contrary government policies.

The exhibit's notes on the wall said that it was created "In memory of our ancestors and in honor of our children." The wall of photographs ended with one composite, larger-than-life (perhaps three feet by five feet) face—or rather, series of faces, as it was constantly changing. The obvious message was, "We are still here." It was the thematic tie-in that I needed to make sense of all the exhibits, and it provided a moment of resonance in a museum that hovered between a public and a sacred space. I did not glean that message from the website—although it is implied—nor did I really have a sense of what it would mean to have the exhibits shaped by Native Americans, although it was explicitly stated on the website that they were part of the advisory and curatorial process. A more precise explanation of how this worked in the physical space, and of the thematic link among the exhibits, would have prepared me better for what was at times a chaotic presentation. On the website, an animated version of the photographic montage plus explanatory text would work well, for example, as a supplement to the exhibit that would not in any way diminish the impact of the larger-than-life version.

The Follow-up Web Visit

I could not obtain data about how many visitors the museum and its website get per month, perhaps because the museum is so new.

Revisiting the website after my real-time visit, I was not able to learn any more about the exhibits I had already seen, which was disappointing. I had especially hoped to learn more about "Our Universes," which had not left me with any real understanding of the cultures represented (even though I enjoyed some elements). In addition, I would have appreciated learning more about the innovative artists who were featured in the exhibit, "Our Lives." The works of art that used contemporary materials with traditional forms—such as a basket of woven film strips—were so striking that I wanted to see and know more

Since I could not find anything that would deepen my understanding of the museum exhibits or related history, I spent more time looking at the online exhibits. This time I had more trouble getting exhibits to display; "Agayuliyararput" and "To Honor and Comfort" are two examples. I discovered that two exhibits were actually the same but with different names ("Creation's Journey" and "All Roads are Good"). How much I learned varied according to the presentation of each, which differed greatly. Some, such as "Great Masters of Mexican Folk Art," contained a lot of text, while others, such as "Indian Humor," contained little. In general the hierarchy of the online exhibits and the entire site was somewhat shallow. On the other hand, it was never overwhelming.

Recommendations

The website, the exhibit on animal-related artifacts, and the one entitled "Our

Universes," brought to mind an article by Lonnie G. Bunch, "Fighting the Good Fight," in which he discusses how museums can best handle "culture wars" and who has the right to shape museum interpretations.

We must struggle to ensure that museums never return to a time when significant intellectual inquiry, the examination of difficult yet fundamental issues, is ignored. We must not allow our cultural institutions to become places where scholars and curators fail to wrestle with certain questions, not because of the lack of evidence, expertise, or collections, but because of the lack of institutional resolve. 43

The controversies over interpretation that the Smithsonian Institution has faced in the past decade have understandably left curators cautious. That caution is evident in the website for the National Museum of the American Indian, which studiously avoids any controversy, but at the same time sidesteps much history.

A brief statement on the home page or in an introduction that clarified both the museum's mission and the way it acts on it would be helpful. So would a page on understanding and navigating the exhibits in real-time, with follow-up discussions to further comprehension and to provide a deeper context. A more direct discussion about the "Our Universes" exhibit regarding the way it was set up and why, and particularly how to get the most out of it, would add greatly to the total museum experience. I did not poll other museum-goers to determine objectively what responses were to the exhibit, but I heard many comments from people who were confused about what they were seeing and what they were supposed to get out of the exhibit.

Being able to "collect" items for later study, and being able to look up those items later, would be inordinately useful. I wrote down the names of several items that I wanted more information about—such as how they were made, when they were made, differences in styles by tribe, ritual meaning, historical context, and so forth. I tried the search engine on the site to look up the "eagle feather bonnet" I had seen and got no response. "Headdresses" also got nothing. "Bonnet" took me to the "Collections" page, where bonnet was just one of the words mentioned in the text. I may have been able to find more information by going to the website for the Smithsonian. Trying that, however, made it difficult to return to American Indian Museum; not all the pages I went to had links to the other Smithsonian museums. I was also frustrated by not being able to find any reference at all to the "Animals" exhibit, let alone any information about the specific artifacts in it.

The website contains a lot of graphics that are not doing any work for the site besides decorating it. It misses a lot of opportunity for education; brief pop-ups that provided not only cataloguing information but contextual details would enrich the experience and likely increase the desire to see the artifacts in person. Combining a floor map (to preorient the visitor) with details about the exhibits and their history would prepare the visitor to navigate in the physical space, as well as to sharpen the desire to do so.

Various linking and loading problems need to be fixed. A link to a search engine within each subsection would be helpful, as would links to the rest of the museum once inside an online exhibition.

An introductory page could point out that the online and past exhibits (two sections with overlapping exhibits) are informational. Judging from the material about current

exhibits, a viewer does not have any reason to believe that the online exhibits will be educational. In addition, the "Education" section misses a great opportunity to educate. Explaining how to arrange tours is useful information, but it is not education. Links from the education site to discussion/chat rooms, interactive learning programs such as creative play, role-playing stories, interactive mysteries, writing exercises, and so forth would push the website into a genuinely relevant component of the museum experience. The museum is still young, however, so perhaps these elements are in the works.

p. 27.

40 Greenberg, "'History is a Luxury: Mrs. Thatcher, Mr. Disney, and (Public) History," in *The Challenge of American History*, Louis P. Masur, ed. Baltimore: The John Hopkins University Press, 1999, p. 10.

The Anacostia Museum and Center for African American History and Culture

The Virtual Visit

I looked at the website for the Anacostia Museum and Center for African American History and Culture in early December 2004 and visited the museum later in the month. (To visit an archived copy that is the same except for the Smithsonian logo, go to http://web.archive.org/web/20040813030444/http://www.anacostia.si.edu/index.htm.) The Anacostia's website was the only one of the three that directly stated its purpose on the opening page, so I expected a virtual visit that would convey the mission as stated there: to explore "American history, society, and creative expression from an African American perspective." I also anticipated that both virtual and physical space would reflect the original desire (as noted earlier in the section on issues of interpretation) to build "a sort of storefront museum, a drop-in place without the fluted columns and grand staircases, an approachable place with hands-on exhibits."

Of the three museums, this is the one that perhaps could benefit most from a website that works as a deeply layered and accessible interface between the public and the physical space. Creating a user-friendly virtual space that served both to educate museum-goers and to attract them to the Anacostia's location off the Mall would satisfy the museum's mission to reach out to the community, as well as to reach beyond the

³⁶ Charles, Barbara Fahs Charles. "Exhibition as (Art) Form." *Past Meets Present*. (Student Packet, assembled by Phyllis Leffler, University of Virginia) p. 97-102.

³⁷ Crew, Spencer R., and James E. Sims. "Locating Authenticity: Fragments of a Dialogue." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 159.

³⁸ Charles, Barbara Fahs Charles. "Exhibition as (Art) Form." *Past Meets Present*. (Student Packet, assembled by Phyllis Leffler, University of Virginia) p. 104.

³⁹ Alpers, Svetlana. "The Museum as a Way of Seeing." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 27.

⁴¹ Houlihan, Patrick T. "The Poetic Image and Native American Art." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 209.

⁴² Crew, Spencer R., and James E. Sims. "Locating Authenticity: Fragments of a Dialogue." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 171.

⁴³ Bunch, Lonnie G. "Fighting the Good Fight." *Museum News*. March/April 1995, p. 34.

geographical realities of their location, which must compete for visitors with the many DC museums more conveniently located. The website has the potential as well to attract African Americans searching for their roots, amateur historians, and genealogists to the physical space and to the larger task of collecting, displaying, and understanding African American artifacts. Drawing that population into the physical space would boost attendance and help make the Anacostia a vital part of a visit to our nation's capital. An effective website could do all this and stay within a tight budget.

Critical to this scenario, however, is a website that meets the for a well-designed and well-organized presentation. An assessment of the website as a vehicle for addressing and understanding both issues of interpretation and educational content cannot be disentangled from the technical issues of virtual presentation. Every website visitor needs a map to travel through the virtual terrain, and confusing or missing directions diminish the probability of making the trek without getting lost or giving up. In all of the websites, technical difficulties detracted from the experience. This was especially true for the Anacostia's website. The discussion of my experience with the website necessarily focuses on that rocky journey more than on the ideological issues of the virtual presentation because those issues were so hard to get to, given the technical problems I encountered. These difficulties, in essence, conflicted with the museum's desire to create an "approachable" place.

The home page had a clean, uncluttered layout that was graphically pleasing and reflected the straightforwardness I was expecting for a museum with a populist philosophy. Unfortunately, the navigation links were too far to the right on two different browsers and two different computers (one a Mac and one a PC). I had to scroll to the right to find them; they also printed off the page. (While it is not uncommon for navigation systems to print off the page, it is unworkable to have them out of sight all together.) At the bottom of the home page was a notice in large blue type that announced a call for volunteers, internships, and artifacts. Given how critical the need is for artifacts in African American museums, I decided to visit that section first.

The "Call for Artifacts" page had the same layout as the front page (as, it turned out, did all of the main sections save one) but without the images. Reducing the download time by eliminating unnecessary graphics is a prudent step that reflects the museum's intent to include a range of economic levels in its constituency. Users linking to the Internet via modems rather than high speed (and higher cost) formats such as DSL are often unable to load graphics in a reasonable length of time. A photograph can take several minutes; a Flash movie can be interminable. The site contained no animation and no graphics that did not illustrate a specific exhibit or point. The only segment that used Flash (the "On-Line Academy") offered a version in HTML that worked perfectly and seemed to lose nothing by it. Some sections did contain audio files, and I had difficulty loading these; if the intent is to sidestep technology that requires high-speed and expensive Internet connections, as I had surmised, then printed alternatives should have been offered.

The "Call for Artifacts" section had a navigation bar at the top, so it was no longer off the viewing screen. It did not contain a link back to the home page (that I could find), however, or a back button, so I had to use the browser back button (as mentioned earlier, this is the current trend, although not without a thorough navigation bar). I learned from

the section page what kinds of artifacts the museum was collecting and how to donate. A link to an article explaining why materials collections are so important to African American museums would have been educational and added depth to the site.

Clicking on the links in the list of items on the home page took me to sections that used the same menu, and I appreciated the visual consistency. These had no home or back button, however. Taking a cue from my experience with the website for the National Museum of the American Indian, I tried clicking the logo for the Anacostia and was rewarded with a link to the home page.

The "General Information" page included excellent directions (I used them to get to the museum without any trouble). Unfortunately, I lost the right edge of the text when I printed the directions and had to hand-write a few details. (In a check of the website on July 13, 2005, I saw that the webmaster had added a printable version of the directions, thereby solving the problem.)

When I looked at the website in December, the "Highlights" calendar did not extend beyond September's events. (This, the problem with the home page printing too wide, and numerous linking problems had been fixed when I revisited the site in January 2005.)

The "On-Line Academy" section is "part of the museum's recommitment to identify, study, preserve, and collect African American materials." I tried several times between mid-December and early January to get deeper in this section and had too many problems with links to continue. I finally succeeded and was rewarded for my perseverance with the most genuinely educational portion of the whole site. Its subsections included "Artifacts", "Scholars," "Collectors," "Preservers," and "Learn More." A link to "Acknowledgements" was included and provided credentials for the site.

The "Artifacts" section explained what "material culture" is. It also gave examples with extensive, informative details that contextualized and provided a story and background relevant to each piece. The artifacts ranged from one of Frederick Douglass's visiting cards to an autobiographical manuscript. As is suitable for the museum's constituency, the website offered both a Flash and a non-Flash version. This section was so useful and so well done that I wish its contents and its merits had been made clear on the home page; it succeeded in conveying information in a manner that supported a populist ideology in both content and virtual presentation. (To view the page, visit http://anacostia.si.edu/Online_Academy/Academy/academy.htm; click on "Artifacts" at the top of the Anacostia website page.)

The "Scholars" section featured interviews of African American scholars. Two of these, Maisha Washington and Gail Sylvia Lowe, had several layers of text overlapping in the navigation section and were illegible. I also could not get the video clips to play. I clicked the RealAudio download to reload the program, hoping that I could get it to work. The link took me to a page with an array of products that I scrolled through to find the free download, but it took so long that I gave up. A link to a printed transcript of the interviews would have helped anyone whose computer had insufficient memory to run video files.

The subsection "Collectors" contained the material I had hoped to find when I linked to the "Call for Artifacts!!" on the home page. A link to this page would support the drive for artifacts. It includes interviews of individuals and families discussing their collections, the importance of African American history and of preserving that history.

"Preservers" gave tips for preservation, with detailed explanations via video clips that I could not see. "Learn More" provided links to sources and further reading and collecting. All in all, it was a section useful to anyone interested in history and material culture, not just African Americans or those with related artifacts. After reading all the materials in the "On-Line Academy," I was so deep into the section that I would really have appreciated a navigation tool that would at least have taken me to the Academy's front page. In sixteen clicks I was there.

Choosing from the main menu again, I selected "Anacostia History." This section used a different layout, replacing the design elements with a group of links under the heading, "Research Your Community." (The section is meant as an educational activity in exploring a community and recording the investigation.) The main area of the page introduced the topic and explained that vocabulary words were in red type; the site did not have an accompanying glossary, nor did words link to a pop-up definition. The instructions indicate that viewers (students) should look them up. Each subsection was linked to a printable page with questions and sections for answers and photographs. The low-technology, low-cost approach of this section made it feasible for a school project, but it could have been far more interesting.

After looking through the various links, I was again stuck and had to back-click with the browser (later I found that a different Anacostia Museum logo was a link). Once back to a page with primary links, I explored "African American Resources," which included reading lists and archives, as well as links to websites at the Smithsonian Institution, which dramatically broadened the educational and research materials available to the viewer. These took me out of the Anacostia site, and I never came across the museum menu that I had found previously. Some of the Smithsonian's online exhibits, linked from the Anacostia site, were unavailable or illegible.

The online version for "All the Stories are True: African American Writers Speak" had numerous loading and navigational problems, but the content was as thoroughly presented as in the show itself, which I subsequently saw. From the website, I gleaned that I would see this exhibit, one of paintings by William Smith, and an exhibit entitled, "Crowns: Portraits of Black Women in Church Hats" that I was particularly excited to see.

The Physical Visit

While the museum is ideally located for a community museum and cultural center, it is not ideally located to represent one of the nation's primary historical museums, the Smithsonian Institution, or one of our predominant cultures. It would undoubtedly get far more visitors if located on the National Mall, although it might not preserve its function as a community museum if there. I also wonder how it will fare once the Smithsonian Institution builds a national African American museum on the Mall. (For more information about the community of Anacostia and related issues, visit http://xroads.virginia.edu/~CAP/ANACOSTIA/title.html "Crossing the River: Anacostia.")

The building itself was attractive but unpretentious. Inside, it was comfortable but not fancy; nor was it spacious. Aesthetically it matched the website. My immediate sense was that I was in a public space rather than a "sacred space," which was in keeping with the museum's ideological intent. A middle-aged African American woman at the desk

seemed surprised that I wanted to see the exhibits. She did not mention the hat exhibit, so I asked where it could be found. She explained that it was a travelling exhibit; not only had it not opened there the preceding day, as I had read on the website, but it would not show there at all.

My first impression as I walked into the exhibition area was that the museum must be drastically underfunded compared to the architecturally provocative U. S. Holocaust Memorial and Museum and to the architecturally stunning National Museum of the American Indian. While the museum may be styled to be an unintimidating, community space (in which it certainly succeeds), the exhibits themselves nevertheless seemed drastically–deliberately?–low budget.

Two stacks of books, armchairs, and a signed statement about the exhibit were the only elements in the first room. The curator's notes said, "With the highlighting of several writers, this exhibit hopes to encourage a new generation of authors to step forward and claim their own space."

Before I turned into the room housing that exhibit, I stepped into another area exhibiting paintings by Kadir Nelson (it may have been part of the same exhibit). I had not seen notice of this on the website, which missed a wonderful opportunity by not at least advertising it. The mixed media paintings were luminous and expressive; they had to be seen in person to witness the textures, scale, mix of materials, and emotional qualities. A collection of children's books by African American authors and illustrators was arranged by a chair for reading (the docent said to feel free to sit and read). One of these was Will Smith's *Just the Two of Us*, illustrated by Nelson; the original painting was on the wall. To look at the book, read the words, see the painting, and hear (in my head) Smith's song of the same name was a marvelous experience—again, one inaccessible through a computer screen. The website could have echoed the experience, however, by layering visuals, text, and audio (or, a song sheet in place of the audio; many viewers would automatically hear the song mentally, as I did).

The main exhibit for "All the Stories Are True" was located in a large room partitioned into sections, one for each author. The sections displayed a few artifacts in cases, one or more copies of the author's work, and supportive materials ranging from posters to poetry to a quilt. Videotapes of the authors, speaking about their work or reading from it, were available for each writer. The room was somewhat dark, windowless, and quiet except for a fan and whatever video I turned on. The docent found me to say she was leaving, and then—as mentioned earlier—I was alone except for one guard. I felt as if I were in a library rather than in a museum, but I appreciated the solitude after how difficult it had been to read the materials in the other two museums. In a crowd, I would not have been able to read Delores Kendrick's powerful poem, "Epoch," or Edwidge Danticat's insightful comments about writing, and have time to listen carefully to the authors' interviews. As it was, I took a couple of hours to "visit" the authors. The exhibit was not elaborate, but it conveyed that the voices were valid ones, worth listening to. The whole approach fit the museum's ideology.

The exhibit of paintings by William Smith was located in a hall, and a "Gallery for African American Artists" housed a sculpture by Floyd Roberts made of found objects. The sculpture invited close scrutiny because it was made of a crazy mix of materials

(clay, buttons, nails, etc.). Since it was situated in an alcove, however, the sculpture was only viewable from one side and missed out on one advantage of seeing it in real space.

I saw nothing about the museum's artifact collection, its community involvement, educational materials, or the traveling hat exhibit ("Crowns"); these may have been mentioned in handouts I did not receive. Overall, the website fulfilled its position as an educational resource and liaison between museum and community at least as well, and perhaps better, than the museum itself did. In this sense, the physical and virtual spaces were conceptually the most closely meshed of the three museums.

The Follow-up Web Visit

When I returned home, I checked the website immediately. The exhibit information for "Crowns: Portraits of Black Women in Church Hats" made no mention whatsoever of its showing anywhere but at the Anacostia. When I rechecked the website in January, there was no mention of the exhibit at all, traveling or otherwise. The site does not have a search feature, so I could not determine whether it was located elsewhere in the hierarchy.

In general, I did not learn more by revisiting the website until a return "trip" in mid-January, when I was able to gain access to the "Collections" section, as mentioned previously. However, I greatly appreciated being able to reread so much of the material for the "All the Stories Are True" exhibit, as I could only absorb but so much at the time. Doing so helped me retain more of what I had learned initially.

Both the virtual and the physical museum experiences reflect the museum's philosophy to involve the community in a populist approach to learning about African American culture in the past as well as the present. Neither space is overwhelming or intimidating; they are "regular" spaces clearly open to all. Problems with navigation, accuracy, and typos on the website were of more concern than philosophical issues, because they could deter all but the most determined of visitors.

The differences between visiting the real-time and virtual museums were negligible, and this, too, seems in keeping with the museum's mission. The paintings were best seen in person to enjoy their full presence. In addition, seeing the words of multiple African American authors one right after another did affirm their place in American literature and culture, perhaps in a way that reading about each author one at a time might not have. An exhibit that focused more on material objects and history would undoubtedly demonstrate a greater advantage to the physical visit.

Recommendations

The museum received an average of 2,013 physical visitors a month and 13,128 virtual visitors a month in 2004. The location, away from the Mall and in a lower income neighborhood, obviously influences the number of physical visitors the museum gets, especially compared to the museums on the Mall. Because of this, it seems all the more important to use the website to its fullest, as well as to correct the technical and editing problems. Focusing on the artifact-collecting element of the museum would provide a natural path for developing a more complex, more innovative, and further-reaching website that does not compromise—but rather acts upon—the museum's goals.

First of all, given the shortage of artifacts for African American communities, digitizing collections and putting them online would provide scholars and interested persons with a magnificent resource. This service alone would draw more people to the website and open up numerous options for education both within and beyond the local community. Developing an interactive website, personalized so that viewers could "collect" objects from the artifact archives and create their own exhibits, would help publicize the importance of collecting artifacts, empower viewers as curators, and give students the chance to write their own exhibits. The latter could be accessible online and could prove more exciting than the educational offerings available when I was looking at the website. Putting student exhibits online would also motivate students educationally. Secondly, these innovations might even stimulate a national collection drive, spearheaded by the Anacostia—something that the community could then point to as an outgrowth of their efforts and as a source of pride.

Making the organization and content that is available on the site clearer from the onset would encourage viewers to explore the site thoroughly. A search feature that worked not only to look through primary sections but also the secondary ones would be helpful. A comprehensive site map, available from all locations within the site, would also be useful.

An ongoing, online exhibit of community artifacts, memories, photographs, and taped oral histories could be arranged around a historical and cultural timeline to teach and learn from. The educational section of the website could be more creative, incorporating online puzzles and mysteries into the neighborhood histories, for example. Currently the section is rather staid. The reasons for collecting family and community history are lost in language that reads like a textbook; history, especially history told to our youth, needs to be conveyed with the power of the storyteller.

Conclusion

While all three museums have websites that are more or less effective, none integrates concept, content, and design in such a way that the experiences of visiting the museum virtually conflates with visiting it physically.

In addition, usability was an issue at some level for all three websites, and related problems often interfered with the virtual experience—considerably at times. One faulty link may be all it takes to impel the viewer to shut off the computer. The museums are not using much in the way of current trends in websites, but a public history museum website does not have to be fancy. It needs to be accurate, well supported, easy to navigate, and genuinely informative, and it needs to work without glitches. Overall, using advanced technology is less important than conveying meaning and conveying it quickly, succinctly, and vividly.

⁴⁴ Kernan, Michael. "Around the Mall and Beyond." (Student Packet, assembled by Phyllis Leffler, University of Virginia) p. 315.

⁴⁵ Gualtieri, Anthony. Webmaster, Anacostia Museum and Center for African American History and Culture. E-mail to Marcy McDonald, January 6, 2005.

Except for those museums that have established systems for recording information during a physical visit for use later on a home computer, few public history museums are considering the relationship between a physical visit and a post-museum Web visit. As for a pre-museum web visit, the focus is on communicating what is being exhibited, as well as details about hours, directions, and the like. So much could be done simply by deliberating on how to construct an interface between the two spaces and the three visits (before, virtually; during, physically; after, virtually). A section of questions to ask during the exhibit, things to look for, other sources, chat rooms, personalized "collections," personalized history pages—these are but a few ideas. The possibilities are as endless as the Web itself; the issue needs only thoughtful attention.

In the sections for each museum, I have made additional suggestions for implementing an interface approach to their websites. I would also recommend that both public history and art museums create sections on their websites that teach how to look at art and artifacts. These sections would, ideally, discuss and demonstrate what to look for in terms of composition, scale, texture, content, and context. The very idea of context—the who, what, where, why, and what else was going on that is relevant—would be addressed generally as well as specifically for that museum and its exhibits. I am convinced that such an approach would lead to better-informed and more alert museum visitors. This in turn would likely increase physical visits to museums. An informed public is a more curious public. Further, websites that offer meaningful interactive activities, such as developing one's own collection of artifacts online, will generate a better understanding of the role a public history museum plays in preserving history. Indeed, genuine comprehension of why history is important, of why we *must* remember the past, is a concept that a tightly interfaced website is in a unique position to convey.

In doing so, public history websites would inevitably detour into the territory that Sue Ann Cody, cited at the beginning of this paper, called the "controversial" and "disturbing" aspects of history. But if museums are to teach history, they must also face history, in both its glory and its shame. The public history website can serve as a go-between between these two grounds, as well as between sacred and democratic sensibilities, and between populist and authoritative ideologies.

Earlier I mentioned an article by Barbara Fahs Charles, in which she raised some questions about designing exhibitions. Some of these could be applied to assessing the museum and its website as a unit, as well as to stimulate ideas about how to marry the two. I have paraphrased them for this application:

- Do the physical space and virtual space work as a whole?
- Do they encourage further study in each other's space?
- Are labels and descriptions not only informative, but also interesting?
- Are graphics and artifacts doing work, or operating as eye candy?
- Do the virtual and physical environments add something to each other; do they work together to enhance understanding of the subject matter?
- Is the design reflective of ideological intent?
- Do they have a unity in intellectual conception, mission, and design?
- Is the sum greater than the parts?

When these can be answered in the affirmative, the museum's "house" will be as large as it needs to be.

Criteria for Designing the Website as an Experiential Interface

Thorough lists of criteria for developing museum websites are readily available on the Internet. The "Best Practices in Museum Web Site Design" site (http://www.uvcs.uvic.ca/crmp/museumwebsites/), published by the University of Victoria, is one of the best I have seen. While I have drawn from their list in creating my own, what I put forth below is primarily concerned with the issue of integrating the experience of using the website into the overall museum experience. These add particulars to the general questions I posed in the conclusion.

- Is there a distinct "mission for the Web" statement? If not, has thought been given to how the Web will extend, supplement, or influence the physical experience?
- Is the Web design reflective of the ideological intent of the museum?
- Is the design reflective of the design for the physical space? Another way of asking this is, does the design give the viewers a sense of the museum as a *place*?
- Do design elements reflect the museum's exhibit style?
- Is virtuality limited to a mere duplication of images (as opposed to deepening understanding of them)?
- Does the site organization reflect the way the museum is organized? Is there some aspect that enables the viewer to construct a mental image of how the exhibits he or she is reading about are presented in the physical space? And how they are navigated physically?
- Could the website employ a metaphor to focus its design and relate the site to the museum's content and mission?
- Is the writing style as compelling as it is in an exhibit? Or is it written like a dull textbook or in sound bytes?
- Does the website reveal something of consequence about the subject matter?
- Does the website convey different information than that available in the exhibit? If the same, is it phrased differently so as to further comprehension?
- Do online exhibits communicate a clear theme, objectives, scope, quality of evidence, and historical context?⁴⁶
- Are illustrations, photographs, and other graphics (such as titles made of images) captioned or otherwise clearly identified? Are "alt tags" provided so that those who cannot see images will not be lost? Is each alt tag closed with a period so that a text reader will pause between sentences?
- Are the graphics relevant?
- Are dates noted when relevant?
- Is the calendar up-to-date and accurate?
- If online exhibits are also available at the physical site, is this clear?
- Do online exhibits that are tied to physical ones truly enlarge the visitor's understanding of the subject, either before or after a visit, or both?
- Is there any distinction made as to which materials might be helpful before physically visiting an exhibit, after physically visiting an exhibit, or that are helpful regardless of whether the exhibit is physically visited? For example, is

- there anything on the website that offers guidance about how to look at an artifact or work of art?
- Is there a "virtual guide" window that lists specific objects looked at or pages visited, makes suggestions for other objects that might be of interest, and/or provides additional information based on a profile of the viewer? This could be structured simply as a "tourist, student, or expert" tour, for example.⁴⁷
- What on the website is helping to set up the physical visit (besides directions and that sort of information)?
- What is set up that will get the physical visitor back to the website and, in turn, then back to the museum? Is there, for example, an interactive computer at the museum so that visitors can log in questions, record sections visited, and make notes about what to view next time?⁴⁸
- Does the website make the viewer think, "Oh, I've got to see that"?
- What is the website providing that the museum cannot?
- Does the website take the same ideological approach to teaching history as does the museum itself? (Does it *try* to teach history?)
- Does it present a sense of "sacred" or common space; does it match the museum in this?
- Does it make clear from whence it derives its authority, such as providing a signed curatorial statement, citing sources, and/or naming scholars consulted?
- Does the website offer any means for a "resonant" Web experience?

Glossary of Web Terms

- Animation: Using software such as Macromedia's *Flash* (two-dimensional imagery) or Maya (three-dimensional imagery) to create moving pictures.
- Cookie: A message sent between user and browser that identifies the user and possibly enables Web pages to be tailored to the user, such as providing a list of books the viewer might want to buy.
- Customization: Features that enable a user to modify a website to individual requirements, such as bookmarking or rearranging pages.
- Download: To copy data from a main source (such as a website) to a peripheral device (such as a computer's hard drive or desktop, a floppy disk, zip disk, CD, etc.).
- Flash: Macromedia's Web animation technology; colorful animation using text, shapes, and images. Typically made of vectors (lines) so that it does not take up much disk space.

⁴⁶ Cody, Sue Ann. "Historical Museums on the World Wide Web: An Exploration and Critical Analysis." *The Public Historian* 19, No. 4 (Fall, 1997), p. 50.

⁴⁷ Bowen, Jonathan P., and Silvia Filippini-Fantoni. "Personalization and the Web from a Museum Perspective." < http://www.archimuse.com/mw2004/papers/bowen/bowen.html > ⁴⁸ Ibid.

- Hierarchy: The organizational structure of a website. A horizontal hierarchy organizes pages so that they link more or less subsequently, similar to a manuscript. A vertical hierarchy organizes materials into sections and subsections with multiple links within and/or between sections (or even the website). (These are images, so use the back button on your browser to return.)
- Home page: The opening or main page of a website, intended chiefly to greet visitors and provide information about the site or its owner; also called the "start page" or the "front page." "Front page" might instead refer to the first full page of a section.
- IMM: Interactive Multi-Media Installation. A hybrid technology that combines a mix of texts, graphics, still images, animation, video, and/or audio.
- Learning museum: Online learning resources with a deep hierarchy.
- Link: A connection to another document, image, website, etc.
- MP3 file: A compressed audio or video file.
- Orphan pages: Unidentified pages within a site—no log, no home link, no link to a section page. In printing technology, these are called *widows*.
- PDF file: Print download format; this "translates" html documents into a format that will (or should) print within standard (8 1/2 inches by 11 inches) page boundaries. Usually available through Adobe Acrobat Reader or other programs available free through the Internet.
- Personalization: Systems that adapt the interface for the user by collecting information provided by the user or by monitoring the user's actions through site "cookies."
- Pop-up: A secondary window that opens in the browser; may contain text, images, audio, video, animation, etc.
- QuickTime Player: A software program, downloadable for free, that plays audio and video files.
- QuickTime Virtual Reality (QTVR): A program that displays multimedia content (such as animation, audio, and video) on computers. Enhanced versions can display and rotate objects in three dimensions. Usually available through a free download.
- RealAudio: A program that enables audio files on the Internet to be heard via a computer. Usually available through a free download.
- Rollovers: A technique that shows a different text or image (or both) when the cursor is moved over the original one. In a *disjointed* rollover the image changes in a different spot than where the cursor is moving.
- Site map: A page that shows the content and structure of a website. It can be created in a graphic form or as a list, like an outline.
- Stereolithography (STL): Image files of objects that are interactive, load instantly, and can be prototyped into scalable three-dimensional objects.
- Streaming: A video or audiofile that starts loading within seconds so that the images become available before the whole file opens.
- Three-dimensional (or cubic) video: Allows a visitor to manipulate their view in all directions.

- Upload: To transmit data from a computer to a mainframe, network, or bulletin board
- Virtual museum: Electronic artifacts and information resources on the World Wide Web.

Partial List of Websites Visited

All links were current as of July 13, 2005.

- Frontier Culture Museum
- Jamestown Settlement and Yorktown Victory Center
- Colonial Williamsburg
- Plimoth Plantation
- Old Sturbridge Village
- Living History Farms
- The Museum of the Confederacy
- United States Holocaust Memorial and Museum
- The Computer History Museum
- National Museum of American History
- The Lincoln Museum
- Monticello
- George Washington's Mt. Vernon Estate and Gardens
- Hampton Roads Naval Museum
- The Mariner's Museum
- Chattanooga African American Museum
- DuSable Museum of African American History
- Jim Crow Museum of Racist Memorabilia
- New Bedford Whaling Museum
- National Canal Museum
- USS Arizona Memorial
- Winterthur Museum
- Mystic Seaport
- Mashantucket Pequot Museum
- Ash Lawn-Highland
- Lower East Side Tenement Museum
- Charles H. Wright Museum of African History
- Southwest Museum of the American Indian

- National Civil Rights Museum
- Iron and Steel Museum of Alabama
- New-York Historical Society
- National Heritage Museum
- The House of Seven Gables
- Agecroft Hall
- Orchard House
- Longfellow National Historic Site
- Buffalo Gap Historic Village
- Museum of Appalachia
- The Frederick Douglass National Historic Site
- Japanese American National Museum
- American Textile History Museum
- Baltimore & Dhio Railroad Museum
- Coppertown USA
- Gibbs Museum of Pioneer and Dakotah Life
- Molly Brown House Museum
- Kansas Museum of History
- Henry Ford Museum and Greenfield Village
- International Spy Museum
- The Alamo
- Buffalo Bill Historical Center
- Peabody Essex Museum
- Yin Yu Tang
- National Museum of the American Indian
- Anacostia Museum and Center for African American History and Culture
- National Underground Railroad Freedom Center
- Montpelier
- American Folk Art Museum
- Ellis Island
- Pitt Rivers Museum
- Latino Art Museum
- The British Museum
- The Mueller-Schmidt House
- Flowerdew Hundred

- Digital Morphology at the University of Texas
- Pocumtuck Valley Memorial Association and Memorial Hall Museum
- The Fairhaven History Museum
- Whatcom Museum of History and Art
- Frederic Remington Art Museum
- Burke Museum of Natural History and Culture
- Museum of Indian Arts and Culture
- The Crocker Art Museum
- The Enfield Shaker Museum
- The Parrish Art Museum
- 1912: Competing Visions for America
- Alaska's Gold
- Anti-Saloon League
- Chicago Historical Society: The History Files
- Museum of American Soul Music
- Picturing Women
- The Great Chicago Fire and the Web of Memory
- Second Story Studio
- Library of Congress
- Jay I. Kislak Collection
- San Francisco Museum of Modern Art
- Textile Museum of Canada
- Gardiner Museum of Ceramic Art
- Virginia Museum of Fine Arts

Endnotes

- 1. Loomis, Ross J., and Steven M. Elias. "Website Availability and Visitor Motivation: An Evaluation Study for the Colorado Digitization Project." 1/06/03. http://www.cdpheritage.org/resource/reports/loomis report.pdf>
- 2. Kurin, Richard. *Reflections of a Culture Broker: A View from the Smithsonian*. Washington: Smithsonian Institution Press, 1997, p. 19.
- 3. Ibid., p. 21-22.

- 4. Eng, David L. *Racial Castration: Managing Masculinity in Asian America*. Durham: Duke University Press, 2001, p. 39.
- 5. Ibid., p. 40.
- 6. Ibid., p. 42.
- 7. Cody, Sue Ann. "Historical Museums on the World Wide Web: An Exploration and Critical Analysis." *The Public Historian* 19, No. 4 (Fall, 1997), p. 40.
- 8. Guralnick, Robert P. "Bridging the Gap Between Research and Education: The Future of Network Technology in the Sciences and Science Museums." http://www.archimuse.com/mw97/speak/guralnic.htm
- 9. McKenzie, Jamie. "Building a Virtual Museum Community." http://www.fno.org/museum/museweb.html>
- 10. Cody, Sue Ann. "Historical Museums on the World Wide Web: An Exploration and Critical Analysis." *The Public Historian* 19, No. 4 (Fall, 1997), p. 41.
- 11. Ibid., p. 40.
- 12. Clifford, James. "Museums as Contact Zones." *Representing the Nation: A Reader*. David Boswell and Jessica Evans, eds. New York: Routledge Press, 1999, p. 438.
- 13. Ibid., p. 449.
- 14. Ibid., p. 452.
- 15. Fjellman, Stephen M. *Vinyl Leaves: Walt Disney World and America*. Boulder: Westview Press, Inc., 1992, p. 30-31.
- 16. Greenblatt, Stephen. "Resonance and Wonder." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 45.
- 17. Ibid., p. 47.
- 18. Lowenthal, David. "Pioneer Museums." *History Museums in the United States: A Critical Assessment*. Warren Leon and Roy Rosenzweig, eds. Urbana: University of Illinois Press, 1989, p. 116.
- 19. Kernan, Michael. "Around the Mall and Beyond." (Student Packet, assembled by Phyllis Leffler, University of Virginia, p. 315).
- 20. Cody, Sue Ann. "Historical Museums on the World Wide Web: An Exploration and Critical Analysis." *The Public Historian* 19, No. 4 (Fall, 1997), p. 39-40.
- 21. Ibid., p. 40.
- 22. Ibid., p. 50.
- 23. Ibid., p. 23.
- 24. McConnell, Mike, and Iain Middleton. "Exploiting Historic Connections Online." http://www.abdn.ac.uk/~com134/publications/murex05-abstract.doc (to view, connect to the html version via a search engine).
- 25. Giaccardi, Elisa, and Fondazione Fitzcarraldo. "Memory and Territory: New Forms of Virtuality for the Museum." http://www.archimuse.com/mw2004/papers/giaccardi/giaccardi.html
- 26. Bowen, Jonathan P., and Silvia Filippini-Fantoni. "Personalization and the Web from a Museum Perspective."
 - http://www.archimuse.com/mw2004/papers/bowen/bowen.html
- 27. Ibid.

- 28. Ibid.
- 29. Giaccardi, Elisa, and Fondazione Fitzcarraldo. "Memory and Territory: New Forms of Virtuality for the Museum."
 - http://www.archimuse.com/mw2004/papers/giaccardi/giaccardi.html
- 30. Dalyrymple, John, et al. "Developing Meaningful On-Line Exhibitions: Cloth and Clay, Communicating Culture."
 - http://www.archimuse.com/mw2004/abstracts/prg 250000759.html>
- 31. Glasser, Susan. "Museum Applications of the Web: Experiences New Ideas/New Audiences."http://www.archimuse.com/mw97/speak/glasser.htm
- 32. Sumption, Kevin. "Beyond Museum Walls': A Critical Analysis of Emerging Approaches to Museum Web-Based Education."

 http://www.archimuse.com/mw2001/papers/sumption/sumption.html
- 33. Bowen, Jonathan P., and Silvia Filippini-Fantoni. "Personalization and the Web from a Museum Perspective." http://www.archimuse.com/mw2004/papers/bowen/bowen.html
- 34. Houlihan, Patrick T. "The Poetic Image and Native American Art." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 208.
- 35. Swiader, Lawrence. Director, Outreach Technology, United States Holocaust Memorial Museum. E-mail to Marcy McDonald, 1/9/05.
- 36. Charles, Barbara Fahs Charles. "Exhibition as (Art) Form." *Past Meets Present*. (Student Packet, assembled by Phyllis Leffler, University of Virginia, p. 97-102.)
- 37. Crew, Spencer R., and James E. Sims. "Locating Authenticity: Fragments of a Dialogue." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 159.
- 38. Charles, Barbara Fahs Charles. "Exhibition as (Art) Form." *Past Meets Present*. (Student Packet, assembled by Phyllis Leffler, University of Virginia), p. 104.
- 39. Alpers, Svetlana. "The Museum as a Way of Seeing." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 27.
- 40. Greenberg, "History is a Luxury: Mrs. Thatcher, Mr. Disney, and (Public) History." in *The Challenge of American History*, Louis P. Masur, ed. Baltimore: The John Hopkins University Press, 1999, p. 10.
- 41. Houlihan, Patrick T. "The Poetic Image and Native American Art." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 209.
- 42. Crew, Spencer R., and James E. Sims. "Locating Authenticity: Fragments of a Dialogue." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991, p. 171.
- 43. Bunch, Lonnie G. "Fighting the Good Fight." *Museum News*. March/April 1995, p. 34.
- 44. Kernan, Michael. "Around the Mall and Beyond." (Student Packet, assembled by Phyllis Leffler, University of Virginia, p. 315.)

- 45. Gualtieri, Anthony. Webmaster, Anacostia Museum and Center for African American History and Culture. E-mail to Marcy McDonald, January 6, 2005.
- 46. Cody, Sue Ann. "Historical Museums on the World Wide Web: An Exploration and Critical Analysis." *The Public Historian* 19, No. 4 (Fall, 1997), p. 50.
- 47. Bowen, Jonathan P., and Silvia Filippini-Fantoni. "Personalization and the Web from a Museum Perspective."
 - http://www.archimuse.com/mw2004/papers/bowen/bowen.html
- 48. Ibid.

The Museum and the Web: Three Case Studies Sources

- Adams, Michael. "MZTV Museum of Television Interactive 3D Gallery."
 http://www.archimuse.com/mw2004/abstracts/prg 265000680.html
- Alexander, Kirk, and Janet Temos. "From Virtually Impossible to the Virtual: Building a Dream Exhibition."
 - <//www.archimuse.com/mw2004/abstracts/prg_250000757.html>
- Alpers, Svetlana. "The Museum as a Way of Seeing." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991: 25-32.
- *The American Heritage Dictionary of the English Language*, Online Edition. http://www.bartleby.com
- Beeker, Julie. "Peabody Essex Museum (PEM): ARTscape."
 http://www.archimuse.com/mw2004/abstracts/prg 265000656.html
- Bellnier, Karen. "Riversdale History Museum: A Small Museum and the Internet." http://www.archimuse.com/mw2004/abstracts/prg 265000660.html>
- "Best Practices in Museum Web Site Design." University of Victoria, British Columbia, Canada. http://www.uvcs.uvic.ca/crmp/museumwebsites>
- Bordac, Sarah. "Advancing Tools for Tolerance: Harnessing the Web to Support." http://www.archimuse.com/mw2004/abstracts/prg 265000686.html>
- Bowen, Jonathan P., and Silvia Filippini-Fantoni. "Personalization and the Web from a Museum Perspective."
 - http://www.archimuse.com/mw2004/papers/bowen/bowen.html
- Brazas, Julia Borst, et al. "Chicago Web Docent: Bringing Museums to the Digital Classroom—On-Line Content Management and Presentation System (CMAP)." http://www.archimuse.com/mw2004/abstracts/prg 250000756.html>
- Bunch, Lonnie G. "Fighting the Good Fight." *Museum News*. March/April 1995: 32-62.
- Burnette, Allegra, and Deborah Schwartz. "Making Websites for Young Audiences."
 - http://www.archimuse.com/mw2004/abstracts/prg 250000780.html>
- Charles, Barbara Fahs Charles. "Exhibition as (Art) Form." Past Meets Present. 97-104 (Student Packet, assembled by Phyllis Leffler, University of Virginia: 155-159).

- CIA World Factbook. http://www.clickz.com/stats/sectors/geographics/article.php/5911 151151>
- Clifford, James. "Museums as Contact Zones." Representing the Nation: A Reader. David Boswell and Jessica Evans, eds. New York: Routledge Press, 1999: 336-358.
- Cody, Sue Ann. "Historical Museums on the World Wide Web: An Exploration and Critical Analysis." *The Public Historian* 19, No. 4 (Fall, 1997): 29-53.
- Crew, Spencer R., and James E. Sims. "Locating Authenticity: Fragments of a Dialogue." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991: 159-175.
- Dalyrymple, John, et al. "Developing Meaningful On-Line Exhibitions: Cloth and Clay, Communicating Culture."
 - http://www.archimuse.com/mw2004/abstracts/prg 250000759.html>
- DeRuyver, Debra. "Evaluating Public History Web Sites." http://www.publichistory.org/evaluation/index.html
- DiBlas, Nicoletta, and Paolo Paolini. " From Requirements to Usability for Museum Web Sites."
 - http://www.archimuse.com/mw2003/abstracts/prg_200000769.html
- Dodge, Martin. *An Atlas of Cyberspaces*, 2004. http://www.cybergeography.org/atlas/web sites.html>
- Educational Web Adventures. http://www.eduweb.com/quick tour.html
- Eng, David L. *Racial Castration: Managing Masculinity in Asian America*</i>
 Durham: Duke University Press, 2001.
- Fernstrom, Mikael, and Liam Bannon. "Enabling Technology for Museum Visitors: Issues and Experiences."
 - http://www.ul.ie/~idc/library/papersreports/MikaelFernstrom/MuseumsWeb/musweb4.html
- Fjellman, Stephen M. *Vinyl Leaves: Walt Disney World and America*. Boulder: Westview Press, Inc., 1992.
- Fry, Thomas, et al. "Comparison of Web-Based Library Catalogs and Museum Exhibits and Their Impacts on Actual Visits: A Focus Group Evaluation for the Colorado Digitalization Project."
 - http://www.lrs.org/documents/CDP/CDP Report 2001.pdf>
- Giaccardi, Elisa, and Fondazione Fitzcarraldo. "Memory and Territory: New Forms of Virtuality for the Museum."
 - http://www.archimuse.com/mw2004/papers/giaccardi/giaccardi.html
- Glasser, Susan. "Museum Applications of the Web: Experiences New Ideas/New Audiences." http://www.archimuse.com/mw97/speak/glasser.htm
- Goldman, Kate Haley, and David T. Schaller. "Exploring Motivational Factors and Visitor Satisfaction in On-line Museum Visits."
 http://www.eduweb.com/motivational factors full.html>
- Greenberg, "'History is a Luxury: Mrs. Thatcher, Mr. Disney, and (Public) History," in *The Challenge of American History*, Louis P. Masur, ed. Baltimore: The John Hopkins University Press, 1999: 294-311.

- Greenblatt, Stephen. "Resonance and Wonder." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991: 42-56.
- Gualtieri, Anthony. Webmaster, Anacostia Museum and Center for African American History and Culture. E-mail to Marcy McDonald, January 6, 2005.
- Guralnick, Robert P. "Bridging the Gap Between Research and Education: The Future of Network Technology in the Sciences and Science Museums." http://www.archimuse.com/mw97/speak/guralnic.htm
- Houlihan, Patrick T. "The Poetic Image and Native American Art." *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Ivan Karp and Steven D. Lavine, eds. Washington: Smithsonian Institution Press, 1991: 205-211.
- Kernan, Michael. "Around the Mall and Beyond." (Student Packet, assembled by Phyllis Leffler, University of Virginia: 313-315).
- Kurin, Richard. *Reflections of a Culture Broker: A View from the Smithsonian*. Washington: Smithsonian Institution Press, 1997.
- Lowenthal, David. "Pioneer Museums." *History Museums in the United States: A Critical Assessment*. Warren Leon and Roy Rosenzweig, eds. Urbana: University of Illinois Press, 1989: 115-127.
- Loomis, Ross J., and Steven M. Elias. "Website Availability and Visitor Motivation: An Evaluation Study for the Colorado Digitization Project." 1/06/03. http://www.cdpheritage.org/resource/reports/loomis_report.pdf
- McConnell, Mike, and Iain Middleton. "Exploiting Historic Connections Online." http://www.abdn.ac.uk/~com134/publications/murex05-abstract.doc (to view, connect to the html version via a search engine>
- McKenzie, Jamie. "Building a Virtual Museum Community." http://www.fno.org/museum/museweb.html
- Neal, Lisa, and Kim Van Wormer. "Making Learning Fun: Plimouth Plantations On-Line Learning Center."
 - http://www.archimuse.com/mw2004/abstracts/prg 265000676.html>
- NUA Internet Surveys. http://www.nua.ie/surveys/how_many_online/
- Public History Resource Center.
 http://www.publichistory.org/reviews/index.asp
- Rowe, Timothy. "Digital Morphology—a 3D Collection of Natural History Specimens."
 - http://www.archimuse.com/mw2004/abstracts/prg 260000654.html>
- Schaller, David, et al. "To Flash or Not To Flash? Usability and User Engagement of HTML vs. Flash." http://www.eduweb.com/to flash full.html>
- Schaller, David T., and Steven Allison-Bunnell, et al. "How Do You Like To Learn? Comparing User Preferences and Visit length of Education Web Sites." http://www.archimuse.com/mw2002/papers/schaller/schaller.html
- Spichiger, Lynne, and Juliet Jacobson. "Telling an Old Story in a New Way: Raid on Deerfield—the Many Stories of 1704."
 - http://www.archimuse.com/mw2004/abstracts/prg 265000669.html>

- Sumption, Kevin. "Beyond Museum Walls'—A Critical Analysis of Emerging Approaches to Museum Web-Based Education."
 - http://www.archimuse.com/mw2001/papers/sumption/sumption.html
- Swiader, Lawrence. Director, Outreach Technology, United States Holocaust Memorial Museum. E-mail to Marcy McDonald, 1/9/05.
- "Top Countries as of 2004 Q3 with the Highest Internet DSL Broadband." http://www.internetworldstats.com/dsl.htm
- Vergo, John, et al. "'Less Clicking, More Watching': Results from the User-Centered Design of a Multi-Institutional Web Site for Art and Culture." http://www.archimuse.com/mw2001/papers/vergo/vergo.html
- Wallace, Mike. Mickey Mouse History: Portraying the Past at Disney World and Other Essays on American Memory. Philadelphia: Temple University Press, 1981.
- Webopedia: An online encyclopedia dedicated to computer technology. http://www.webopedia.com>

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Example of catalogue style of website

Example of education and research style of website

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"Let the Objects Speak" example

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US Holocaust Museum and Memorial

Enlarged photo of the US Holocaust Museum and Memorial

Link to the USHMM website from 11/18/04

Enlarged photo of a "cattle car" used to transport victims to concentration camps

Link to the current USHMM website

National Museum of the American Indian

Enlarged photo of the National Museum of the American Indian

Link to the NMAI website from 11/14/04

Enlarged photo of sculpture

Movie of Native American dance troupe

Enlarged photo of the "Our Peoples" exhibit

Pop-up definition of the "one-drop-of-blood" rule

Enlarged photo of artifacts in the "Our Peoples" exhibit

Link to a floor map example

Link to the current NMAI website

Anacostia Museum and Center for African American History and Culture

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