

# The Eye of the Beholder

## Museology, Museums and Contemporary Presentation

Ann Davis  
The Nickle Arts Museum  
University of Calgary  
Canada

### Abstract

Too many museums are floundering under decreasing attendance and increasing commercialization. One very important way to address these ills is to reconsider museum presentation, specifically exhibitions and the visitor experience therein. Central to this reworking of museum presentation is the acceptance of the primacy of the visitor and her community: museums mount exhibitions to educate and entertain the visitor, to enrich and enlarge the person, even to change society. To fire the imagination and stimulate social change, museums must reconsider the nature of the architecture of their galleries; they must engage much more fully with their communities; they must transform the content of their exhibitions; they must rethink exhibition design and they must pay attention to learning systems. If these demanding modifications are made, I believe museums will become much more relevant and pleasurable.

---

What do museum visitors want and how can museums give it to them?<sup>i</sup> What are museums for? What is the museum's role in society? The rather ugly term edutainment has been coined to describe a blend of education and entertainment that many museums around the world serve up to their loyal visitors. The term underlines the dual nature of much museum presentation, a somewhat schizophrenic mixture of informal education and attempted fun. But how is each done and is it successful? This paper will argue that museums have great potential to educate their visitors in a relaxed social setting, but to do so a number of changes must be made, including establishing a new link with community, developing a greater understanding of what are important issues, concentrating on collaboration and undertaking a serious study of learning systems.

We are all too familiar with museums where there seems to be more staff than visitors, where the halls echo with the isolated footsteps of quiet patrons peering into dark cases exhibiting the permanent collection. With the exception of the very major international museums, small attendance seems to be all too common. Many museums only come alive when the blockbuster arrives in town, that highly commercial, touring show accompanied by merchandise for sale in the museum shop, merchandise which some visitors consider as important and as interesting as the artifacts in the galleries. Add this to the glitzy opening and the fancy restaurant, and we see the commercialization of museums in full swing where it can seem that substance is outweighed by style. There is a trap here: the sad reality is that often the blockbuster and the commercialism are needed to fund all the other programming.

## Where we are today

One author who has considered museum presentation and the visitor experience both historically and contemporaneously is Kathleen McLean, in her clear and provocative article “Do Museum Exhibitions have a Future?” (McLean) For this study McLean, an exhibition planner, read the whole of the first volume of *Curator*, published in 1958 by the American Museum of Natural History. Following this review she was impressed and saddened with the “disconcerting similarity” between what was written those many years ago and what is being debated today. (McLean, 110) Her conclusion was that there is a considerable amount we can and must do if exhibitions are to survive.

In looking at themes that she identified in the first volume of *Curator*, McLean was surprised by the amount of discussion of visitor needs, acknowledging that their interests and backgrounds are diverse and that they will pick and choose what to consider in the museum. Already there was thought about working with the communities in which museums are situated, in exploring with members of those communities their needs and wants. (Beneker, 78) One author went further, promoting the concept of museum as advocate: “Programs must serve the best interests of our population and stimulate in them the need and desire to form their own opinions, establish their own convictions, and take whatever action is appropriate, whether it be more thought on the subject or a letter to their congressman.” (Bums, 65) This idea of stimulating the visitor was further explored by Katharine Beneker, under the title “Exhibits – Firing Platforms for the Imagination.” Beneker was adamant that exhibitions should “enrich and enlarge the life of the person, child or adult, who sees them. Their value lies not within the museum walls, but in how much the visitor takes with him when he leaves. If you have started him on a new thought process, if you have made him curious enough to look more deeply into a subject, if you have changed his point of view, then your exhibition is successful and your visitor is ‘off the ground’.” (Beneker, 81)

Another theme McLean identified from 1958 was that of the tension in the way exhibitions were conceived: should they focus on objects or on ideas. In 1958 McLean found a “conspicuous modern trend... to set forth abstract concepts and principles rather than to merely show objects.” (Schmidt, 27-28) This tension was prompted in part by a recognition that object-based shows worked well when emphasizing the particularity or the individuality of an object or specimen, but did not work nearly as well when considering more abstract contemporary ideas, such as ecology or evolution. This dichotomy was well articulated. “It is noteworthy that such [ideas] exhibits demand far closer cooperation between the scientific and the educational staff than the ‘old style,’ take it or leave it exhibits.” (Schmidt, 28)

McLean also found relevant references to the entertainment-versus-education debate, and identified a definite preference for the latter. “[T]he museum’s concern should be less for the number of its visitors than for what it does for them. If it wants to be an educational institution, then it must have an educative philosophy. It must offer the individual visitor something more than the fleeting pleasure of novelty.” (Rosenbauer, 7) This emphasis on interpretation and learning was a particular focus for Rosenbauer, who examined visual learning. “Interest,” he contended, “must be centered not on things but on the meaning of things to ordinary people with ordinary lives and backgrounds. This would be simple if meanings were fixed and universal – which they are not.” (Rosenbauer, 6) Continuing this analysis of the components of exhibitions, Rosenbauer

cautioned against focusing primarily on facts and information. Rather he contended “our curiosity, wonder, and delight are the driving forces that keep us constantly seeking knowledge.” (Rosenbauer, 9)

McLean was distressed by what she found, by her perceived lack of advance in exhibition presentation since 1958. She was concerned that the same complaints came up time and again, and, although there were interesting suggestions for improvements, these did not seem to have been tried, or, if tried, did not stick. In museum professionals she saw complacency and an inability to imagine how exhibitions could be more engaging to more people in this complex and changing world. (McLean, 114) On this basis, the future looks bleak. Are there solutions?

### **Possible solutions**

#### a) Architecture

Perhaps the renewal of museum presentation should start with a refurbishing of the museum’s building. Heaven knows many old museums are in dire need of serious upgrades to their facilities, including new storage vaults, lighting, display cabinets, washrooms, restaurant and shop, to say nothing of those more hidden necessities such as a functional vapour barrier, a leak-proof roof and appropriate climate controls. A number of museums have designed flashy new buildings to accommodate their growing collections, the best-known example of which is the Guggenheim Museum Bilbao, designed by Frank Gehry and opened in 1997. In the last ten years many other museums have followed this path, including the Royal Ontario Museum and the Art Gallery of Ontario, which both recently opened eye-catching and costly renovations in Toronto, Canada.<sup>ii</sup>

Because the Guggenheim Museum Bilbao has garnered so much attention, it is worth spending a bit of time analyzing its relation to museum presentation and social transformation. While it is an innovative, exciting building, really a mammoth piece of outdoor sculpture, with definite functional limitations as a museum, the Guggenheim Museum Bilbao is known more for the “Bilbao effect” than for its museological attributes. The “Bilbao effect” refers to the belief that this museum, in and of itself, was the transformative agent in revitalizing the depressed social and industrial Basque region of northern Spain. Based on this putative economic model, city planners, politicians and museum directors around the world have repeatedly argued for striking new cultural buildings and substantial capital investment. But recent detailed analysis suggests that this is a superficial if not seriously erroneous interpretation. From Beatriz Plaza, an economist in the Faculty of Economics at the University of the Basque Country, we learn that the Guggenheim Museum Bilbao was simply the “icing on the cake” of a much larger local economic redevelopment plan, making it “inaccurate to define the Bilbao case as a culturally led regeneration process.” (Plaza, 514) Furthermore, both Adrian Ellis and James M. Bradburne contend that this approach is not financially sustainable, for, as Ellis notes, it “is a form of pyramid selling or Ponzi scheme... [because unless new funding opportunities were generated] systemic underfunding reappears, and in a heightened form, given the larger facility and the more ambitious programming....” (Ellis, 21)

The Michael Lee-Chin Crystal addition to the Royal Ontario Museum is another structure that suffers from some of the same problems as the Guggenheim Museum Bilbao. This CA\$303 million project includes a large gallery that leaks, has virtually no vertical walls and that needs protective barriers by the windows so people will be safe. Ironically, after considerable experimentation, the curatorial staff determined that dinosaurs looked best in this very iconoclastic and difficult space. Already locals are debating when the addition will be removed. As Robert Janes forcefully comments, while “often likened to a renaissance, this architectural boom doesn’t merit this praise, lacking as it commonly does any vigorous intellectual or creative resurgence within the museum itself. In fact, the opposite prevails ....” (Janes, 108)

The reality, as McLean notes, is that new buildings by celebrity architects, with newly installed galleries and display cases, seem to concentrate on the bricks and mortar, the glass and titanium, with no evidence that the exhibitions and programs will be significantly improved.<sup>iii</sup> (McLean) From this three principles of appropriate gallery spaces emerge. These are not applicable to the exterior of the museum or to reception rooms and the like, but rather are related strictly to display spaces:

- 1) the physical space should be as close to a white box as possible, eliminating unnecessary architectural flourishes
- 2) the space must be as flexible as possible, able to accommodate many different types of display
- 3) fiscal sustainability must be part of the planning, such that ongoing staffing and programming costs are covered

Regrettably these three principles are often forgotten in celebrity architecture projects. Rather, with the frequent emphasis of such architecture on market economy, consumerism, international tourism and time-sensitive bling, enhanced museum relevance, value and meaningful renewal are further delayed and denied.

#### b) Working with communities

Perhaps the most important and most difficult aspect of presentation that needs attention is the museum’s relationship to its communities. Like architecture, the museum’s attitude toward its communities permeates every aspect of the institution, from the composition of the board, to the hiring of staff and the allocation of resources, to the acquisition of collections. An important and most public indication of attitude to community is a museum’s programs, principally its exhibitions. Perhaps two of the strongest proponents of the importance of communities for museums are Robert Janes in his recent books, *Museums in a Troubled World* (2009) and *Looking Reality in the Eye: Museums and Social Responsibility* (2005) and Doug Worts, in his articles and activities.<sup>iv</sup> In his latest book Janes makes his position quite clear “museums enjoy unparalleled respect and trust and it is time that this veneration be put to good use to encourage stewardship, compassion and heightened consciousness – all of which are eroding under corporatist influences and marketplace ideology.” (Janes, 122) Worts is no less critical, complaining that “museums suffer from the fatal flaw of having no clear vision of what they are attempting to do in cultural terms.” (quoted in Janes, 124) Yet museums have considerable power. The United Kingdom’s consultation paper, *Understanding the Future: Museums and the 21<sup>st</sup> Century Life* noted that globalization, in dispersing communities and eroding traditions, creates a greater need for community roots and values, and enhances the role of museums “by virtue of their unique ability to

connect the local to the global and ... place personal beliefs within more general and universal truths, and historical settings.” (quoted in Janes, 180)

One effort to work with communities was a 2005 exhibition at The Nickle Arts Museum, called a *Sense of Place*. Here two aspects of working with communities, collaboration and place, came together. The show was organized not by a single museum curator but by a committee composed of museum professionals, academics and community members, the last including people involved in landscape architecture, civic politics, native affairs and environmental monitoring. In advocating for social change, as this exhibition did, it was important that the organizing committee be community-based rather than discipline-based. The approach was what Tom Morris, an important motivational speaker, called the collaborative method of excellence, for “[c]ollaboration is all about teams and basic transformation. It is about community, creativity, learning, building, and pioneering.” (Morris, 61) After considerable debate over five years, the committee determined that the purpose of the exhibition was to identify those attributes that make place special rather than to record special places. As I wrote in an article in the exhibition catalogue detailing our process, “[W]e took up the mantle of social change, hoping our project would give viewers more tools to identify the worth of place and fight for it against the homogenizing effects of Americanization, globalization and commercialization.” (Davis, 2005, 92) I concluded that the committee “process does take longer and is more demanding than a single curator working alone. It is also riskier since there is more room for things to go wrong; however, the results of a collaborative team, to my mind, are infinitely deeper, more nuanced and more exciting.” (Davis, 2005, 94)

### c) Exhibition content

If the socially responsible process can and should involve community, what about the exhibition content? Returning to MacLean’s concerns about exhibitions today, should exhibitions be about objects or about ideas? There is a broad trend today to favour ideas, the story, or to attempt to present artifacts within a context, but this is not universal or always successful. The recently remounted *Earth’s Treasures* at the Royal Ontario Museum showcases, according to the museum’s website, “exceptional specimens of minerals, gems, rocks and meteorites ... contextualized and illuminated by over 40 interactive touch stations, compelling video exhibits and engrossing information on Canada’s mining industry. (<http://www.rom.on.ca/>) Yet I was disappointed, partly because approximately 2,300 items were shown, way more than I could possibly take in, and because I have little prior knowledge of geology, so did not know what to look for. The touch screens gave label-like information, the scientific name and the location of the find, none of which meant much to me. Rather, what I took away from the show was the incredible beauty of many of the individual pieces; I had the distinct feeling the pieces were chosen for their looks rather than for their place in a story.

Even a very beautiful piece of art or an artifact can be explored so the visitors have a greater understanding and appreciation of it. One such example is the 1995 exhibition at the National Gallery in London which examined J.W.M. Turner’s popular masterpiece *The Fighting Temeraire tugged to her Last Berth to be broken up*, painted in 1838. In this exhibition, which went well beyond art history to probe naval history and contemporary values, the history of the Temeraire herself (she saw action at the Battle of Trafalgar of 1805), the story of Turner’s lifelong passion for the sea, and the account

of Turner's patriotism all were featured, as was a detailed examination of the components of the painting. (Lord and Lord) The result, rich and nuanced, added considerably to visitors' understanding of the famous painting and appreciation of Turner's art. Two other exhibitions which certainly resonated with the public merit brief mention: the 1961 (recently remounted) *Mathematica*, created by the famed modernist designers, Charles and Ray Eames, and Gunther von Hagens' *Body Works*. In each show visitors find the content both meaningful and exciting.

(<http://www.exploratorium.edu/mathematica/>; Chimirri-Russell)

In providing context and information, relevance and meaning, it is important to know your audience, to appreciate what knowledge that audience may or may not bring to your exhibition, and to understand what interests this audience, what gives meaning and pleasure. (Kidd; Janes) Formal museum documentation may have little value for non-specialists: I did not learn from the Royal Ontario Museum's touch screens in the mineralogy show. Rather interdisciplinary and multidisciplinary methods can be used to engage, enlighten and entertain the viewer. It is also important to recognize that an exhibition is not a book or a TV program, that not all stories are well told through the medium of the exhibition. Some ideas cannot be appropriately conveyed in this format. Furthermore, surely one measure of the quality of an exhibition is whether it stimulates discussion and further exploration, as Beneker suggested. Mieke Ball contends that "if there is anything that would differentiate the 'new' museology from the 'old', or plain museology, it is the idea that a museum is a discourse, and an exhibition an utterance within that discourse." (Ball, 214) If dialogue and further exploration is part of the purpose, we the museum must provide the materials for that, we must give our audience websites, reading lists, clues to enable more research and we must make the opportunity to listen to our visitors, to participate in the discussion.

#### d) Exhibition design

Indubitably exhibition design has a great effect on patrons. Good design, sensitive to both the nature of the material being presented and supportive of the message being conveyed, can greatly increase the interest, enjoyment and learning of the visitor. Bad design can quickly kill an exhibition, despite the spending of great amounts of money. (Davis, 1998) An interesting example, as described by Peter Greenhalgh, is two hangings of the 1980 Salvador Dali exhibition, one in Paris and the other in London. In Paris at the Centre Georges Pompidou, a twenty-meter long spoon was suspended in the air, with a Volkswagen beetle nestled in its ladle; a mountain, which one had to climb to see some of the works, was built in the foyer. Film, paintings and drawings were all effectively displayed. Parisians treated the exhibition as a festival: it was politicized, joyful, and most importantly, surreal. Every day visitors had to line up for hours to get in. The display in London at the Tate Gallery was very different. All was serious. There was no spoon, no mountain and no crowds. The London designers, Greenhalgh noted, actually denied their audience the chance to learn about Surrealism in the best possible way that is by actually experiencing a surreal environment. (Greenhalgh, 97)

Currently there is considerable interest in making sure displays are more engaging and exciting, although too many are still plagued with linear rigidity and endless labels written in some incomprehensible specialist's language. Often, today design experimentation involves a focus on experiential learning, such as the Pompidou

Dali show, and adding hands-on activities and technology to an exhibition. The theory seems to be there but the practice needs some help. After observing years of children's classes in Calgary museums, Jillian Kidd, an educator, concluded that "it isn't the expensive, fancy exhibits that help visitors learn, but rather the skills and knowledge the visitors come with. We have witnessed time and again that adults and children with the skills of 'seeing' will learn more from an exhibit that is interesting and displayed simply, than they will from something that is colourful and noisy." (Kidd, 219) Unfortunately too many exhibition designers, believing more and bigger is better, have not understood this message, preferring to load their shows with complex technology which, in turn, quickly breaks down and is not repaired. Surely nothing is more annoying than visiting a museum where half the activities do not work. More serious perhaps is the lack of consideration of the most appropriate medium for conveying meaning, giving value and eliciting pleasure. Endless computers are not always the right answer, especially now that computers are no longer novel. Furthermore, with technology able to personalize information so well, museums must be bolder in their use of personal devices, such as iPods. As the James Irvine Foundation report notes: "[I]ncreasingly audiences expect artistic creators and distributors to be technologically literate, responsive to their personal interests, and constantly generating fresh content .... Most cultural organizations are not equipped to 'personalize' their audiences' experiences in ways that are becoming commonplace in the commercial sector...." (James Irvine Foundation) At The Nickle Arts Museum we have had considerable success producing iPod programs that complement the shows and make available to visitors as they enter the museum a personal tour of the exhibition. These programs then allow visitors, at their own pace, to select, watch and listen to layered, additional information of their own choosing.

#### e) Learning systems

If we believe that museums are learning centres, we must examine how visitors learn and incorporate this knowledge into all our presentations, what is displayed on the floor and in the galleries, not just what is done in the tours and school programs. Strangely, in many museums, this has not been reflected in exhibition display techniques or has only been so superficially and selectively. Perhaps this is an indication of organizational stasis, an indication that curators, despite recent efforts to democratize museum staff, still hold most of the power and educators still have little influence, especially in the physical organization in the galleries. Or perhaps museums have not fully considered themselves to be part of pedagogy nor has the general public or governments considered museums to be part of learning systems, such as schools. Yet we continue to see ourselves as being in the education business. This very large subject cannot be adequately covered here, so only two aspects of learning will be addressed, and, at that in a very broad manner. The first is individual learning patterns; second is group or social learning patterns.

There are many theories of individual learning. Most centre on the differences between learners. For example Anthony F. Gregorc had attempted to chart various learning styles, how people learn. He did not examine intelligence, who learns more and better. After considerable study Gregorc isolated four learning styles – Concrete Sequential, Abstract Sequential, Abstract Random and Concrete Random – organized along two poles, the concrete-abstract and the sequential-random. (Gregorc) In this way Gregorc attempted to describe every learner, depending on his or her place along these two axes. What is important for museums in considering Gregorc's schema is the

recognition that different people learn in vastly different ways, that the Concrete Sequential person will appreciate material reality presented in a logical order, while the Abstract Random person will seek the abstract world of feeling and emotion and learn not sequentially but in a web-like, multi-dimensional manner. This means that if an exhibition is composed of objects displayed in a linear fashion, three quarter of the learners will not be especially comfortable. Too often museums assume all learners are Concrete Sequential, partly because that learning style has been favoured by the school system, despite the fact that many visitors are not so inclined.

Another important thinker about ways of knowing is Howard E. Gardner, who propounded the theory of multiple intelligences. Gardner initially formulated a list of seven intelligences, linguistic, mathematical, musical, kinesthetic, special, interpersonal and intrapersonal, with the first two typically valued in schools and the next three generally associated with the arts. This theory is to account for human cognition in its fullest. Each person, Gardner believes, has a unique blend of each intelligence, but all seven intelligences are needed to live life well. Museums thus must attend to all intelligences, not just the first two that have been educators' traditional concerns, and this implies "deep learning". (Gardner) Here Gardner's work stands in a direct line from that of John Dewey.

While learning might be individual, there is general recognition that museum use is a social experience and this has considerable implications for how museum presentations are and should be used. Kevin Coffee defined social practice to mean that "our actions and thoughts are not devised in isolation, but are enacted in response to, and within, sociocultural contexts as components of various social relationships." (Coffee, 377) The Russian psychologist, Lev Vygotsky, argues that all our higher mental processes are internalized from social practice, that all development and knowledge is based on our social nature, and that the process is essentially dialogic. (Vygotsky, 88) Both Crowley and Kidd contend that discussions in museums provide opportunities to learn facts and practice reasoning, but more importantly and lastingly to provide understanding of concepts and develop confidence in one's ability to analyze and reason. (Coffee, 380; Crowley et al.; Kidd) The social, dialogic nature of learning in museums is of very great importance.

### Conclusion

Unfortunately Kathleen McLean is correct in her assessment that museum presentation is too often "out on a dying evolutionary limb", threatening the museum with extinction if not quickly reformed. (McLean, 113) Changes need to be made in the very way we consider exhibitions and the tools we use to create and mount them. Starting with museum architecture, we must build galleries suitable for all sorts of presentations, flexible, engaging and sustainable. If we are truly interested in a dialogue with our visitors, we must engage our communities to help us, to instruct us, to challenge our complacencies and lead us to new and exciting meaning-making. Creating the best exhibition content is one of our greatest problems, for we rely too much on beautiful objects without providing a compelling contextual story. Too often we value fact over imagination and emotion. Similarly exhibition design must be linked to the exhibition's concepts, serve the ideas, and stimulate curiosity. Finally, if we consider museums to be learning centres, we must seriously study how people learn and reflect these systems in our presentations. These are demanding requirements, but I am convinced they are achievable.

---

<sup>i</sup> I would like to thank my colleagues , Christine Sowiak, Terry Reilly, Michele Hardy and Lynn Maranda, for kindly reading an earlier version of this paper and for their helpful suggestions.

<sup>ii</sup> For some incredible examples see <http://www.arcSPACE.com/exhibitions/linz/linz.html>

<sup>iii</sup> It is important to understand that I am not opposed to striking museum architecture, to the new museum building as an urban landmark or to this new museum being used to enhance a city's attractiveness or revitalize an otherwise depressed area. Rather what I am concerned about in this paper is the internal display spaces and the tendency for design elements to overwhelm the message and the intent of the materials displayed.

<sup>iv</sup> I do not meant to suggest here that Worts supports the contention that collections and exhibitions are a museum's principal preoccupations, for he does not. Rather he firmly believes that museums should be first about the cultural health and well-being of their communities. (Janes, 124)

## **References**

Ball, Mieke. 1996. The Discourse of the Museum. In Reesa Greenberg, Bruce W. Ferguson and Sandy Nairne eds., *Thinking about Exhibitions*. London and New York: Routledge. 201-218.

Beneker, Katharine. Exhibits – firing platforms for the imagination. *Curator* 1(4): 76-81.

Bradburne, James M. 2004. The Museum Time Bomb: Overbuilt, Overtraded and Overdrawn. *The Informal Learning Review* 65:4-13, available online at <http://www.bradburne.org/downloads/museums/InstitutioninCrisisWEB.pdf>, second article.

Bums, W. 1958. Should museums try TV? *Curator* 1(4): 63-68.

Chimirri-Russell, Geraldine. 2008. The Living and the Dead at the Telus World of Science - Edmonton. *Alberta Museums Review* 34(1): 32-35.

Coffee, Kevin. 2007. Audience Research and the Museum Experience as Social Practice. *Museum Management and Curatorship* 22(4): 377-389.

Crowley, K. 2001. M.A. Callanan, J.L. Jipson, J. Galco, K. Tooping and J. Shrger. Shared scientific thinking in everyday parent-child activity. *Science Education* 85(6): 712-732.

Davis, Ann. 2005. Process in Place. In, Ann Davis and Beverly Sandalack, eds., *Sense of Place*, Calgary: The Nickle Arts Museum, exhibition catalogue. 87 -95

---

\_\_\_\_\_. 1998. Art and Society: Reconstructing Art Galleries. In *Museums and Sustainable Communities: Canadian Perspectives*. Quebec: Musée de la civilisation. 75-84.

Department for Culture, Media and Sport, *Understanding the Future: Museums and the 21<sup>st</sup> Century Life*. Available online at <http://www.cultuer.gov.uk/images/consultations/UnderstandingtheFuture>.

Ellis, Adrian. 2002. Planning in a cold climate. Research paper prepared for the Directors' seminar, Leading retrenchment, Los Angeles: The Getty Leadership Institute, available online at [http://www.getty.edu/leadership/compleat\\_leader/downloads/ellis.pdf](http://www.getty.edu/leadership/compleat_leader/downloads/ellis.pdf).

Exploratorium. <http://www.exploratorium.edu/mathematica/> accessed 25 August, 2009.

Gardner, Howard. 1999. *Intelligence Reframed. Multiple intelligences for the 21<sup>st</sup> century*. New York: Basic Books.

Greenhalgh, Peter. 1989. Education, Entertainment and Politics: Lessons from the Great International Exhibitions. In Peter Vergo. *The New Museology*. Trowbridge, Wiltshire: Reakton Books.

Gregorc, Anthony F. 1984. *Gregorc Style Delineator: Development, Technical, and Administration Manual*. Gregorc Associates, Inc.

James Irvine Foundation. 2006. *Critical Issues Facing the Arts in California*. [www.irvine.org/publications/publications-by-topic/arts](http://www.irvine.org/publications/publications-by-topic/arts), accessed 27 August, 2009.

Janes, Robert R. 2009. *Museums in a Troubled World: Renewal, Irrelevance or Collapse?* Oxford and New York: Routledge.

Kidd Gillian S. 2003. *Seeing the World in 3D: learning in the community*. Ph.D thesis. University of Calgary.

Lord, Barry and Lord, Gail Dexter. 2002. *The Manual of Museum Exhibitions*, New York: Rowan & Littlefield Pub Inc.

McLean, Kathleen. 2007. Do Museum Exhibitions Have a Future? *Curator* 50(1): 109-121.

Morris, Tom. 1997. *If Aristotle Ran General Motors*. New York: Henry Holt and Company Inc.

Plaza, Beatriz. 2008. On some challenges and conditions for the Guggenheim Museum Bilbao to be an effective economic re-activator. *International Journal of Urban and Regional Research* 32(2), 506-16.

Rosenbauer, W. 1958. The museum and the individual. *Curator* 1(4): 5-9.

Royal Ontario Museum. <http://www.rom.on.ca/> accessed 25 August, 2009.

---

Schmidt, K. 1958. The nature of the natural history museum. *Curator* 1(1): 20-28.

Vygotsky, Lev S. 1978. *Mind in Society*. Cambridge MA: Harvard University Press.

Worts, Doug. 2003. On the Brink of Irrelevance: Art Museums in Contemporary Society. In *Researching Visual Arts Education in Museums and Galleries: An International Reader*, eds., Les Tickle, Veronica Sekules, Mari Xanathoudaki. Dordrecht: Kluwer Academic Publishers. See [www.douglasworts.org](http://www.douglasworts.org) for a full list of publications, website accessed 27 August, 2009.