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ridge-building" is a metaphor commonly employed in discourse around bringing people together, overcoming obstacles, or making connections between different perspectives and ideas.

In this article, I explore the idea of bridgebuilding in the context of exhibition development. I start with the simplest idea of spanning two points, that is, making a connection between museum and audience, then review how the nature of the transaction between these two "agents" has evolved over time.

The back-and-forth of the museum experience is not only between the museum and its audience, though: there are other actors that perform critical roles when it comes to the transactions that shape museum experiences. I propose that there are actually four key agents, and I examine some of the forces at play between them. Can we use the engineering concepts behind bridge-building to address those forces and create great exhibits for our audiences?

Finally, I put these theories to the test with two recent exhibitions at the Canadian Museum of Nature in Ottawa. And conclude that, to create effective exhibitions, we should build bridges!

Who's At Stake? A Review of the Players and Their Roles

The two principal agents involved in museum experience are the museum and its public. The nature of the relationship between these two agents has a long history and is constantly evolving.

Enlightenment: Museum as Knowledge-Holder; Public as Consumer. The "modern museum" emerged in the mid- to late-1700s, when collections of "wonders," heretofore stored in the private palaces of the wealthy elite, were made available to broader audiences, presented in impressive purposebuilt public buildings such as the British Museum in London and the Louvre in Paris. The first 150 years of the museum experience were fairly consistent in approach: a museum's function was to display and explain these wondrous things, transmitting knowledge to a public eager to consume it.¹

Introduction of Agency: Museum as Facilitator; Public as Participant. The first major disruptions to the traditional approach occurred in the early 20th century with the introduction of science center–style interactive exhibits in Munich's Deutsches Museum (founded in 1903 and opened in 1925) and Chicago's Museum of Science and Industry (which opened in 1933), where

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visitors could push buttons and manipulate levers to discover phenomena. Following the founding of the Museum of Modern Art in New York in 1929, inaugural director Alfred H. Barr Jr. introduced a radical, minimalist "white cube" approach to exhibition display to minimize interference between the exhibit and the viewer, thereby providing the visitor more agency to experience (and interpret) the art.² The adoption of such visitor-centric techniques persists in many museums today.

Convergence and Competition: Museum as Enterprise; Public as Customer. With the science center model taking off in the 1960s and '70s, a new discipline of visitor research and evaluation evolved, maturing in the 1990s as we began to see scholarly articles on visitor research appearing in museum journals.³ Today, thanks to the work of such practitioners as John Falk, Lynn Dierking, Randy Korn, and others, museum workers recognize that there are different types of visitor motivations that need to be accommodated. As media technology has evolved, we also have been forced to acknowledge that other vehicles are available for providing entertainment, learning, and social experiences, and that we must provide unique and compelling products to attract customers to our institutions.

Museum Experiences as a Transaction Between Agents

This enterprise/customer relationship aligns with "transactional" models of museum experience. In the 1990s, there was also a surge in scholarly articles exploring the nature of the relationship between the two agents, museum and audience. One early example proposed a transactional model for exhibition development, where the two

agents engage in a series of dialogues that ultimately allows for each side to have their needs met. Figure 1 shows a representation of those two agents.

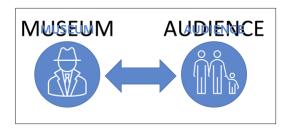


Fig. 1. Simplified representation of the dialogue between Museum and Audience.

From Two to Three. At about the same time, British scholar Michael Baxandall, one of the most influential art historians of the latter half of the 20th century, outlined a transactional model for museums positing three agents (fig. 2):

- Exhibitor (representative of the museum, manifested in the display and the label)
- **2.** Viewer (i.e., audience or visitor)
- **3.** Producer of object (manifested via object itself)

Baxandall added the maker of the object exhibited, the "producer," as a key agent in the transaction.⁵ The relationship between the producer and the museum might be obvious (for example, when a museum hires a designer or model maker), or it might be barely perceptible (such as when a museum displays a specimen collected 100 years earlier from a faraway land). Regardless, deliberately adding the producer or maker into the transactional mix affirms that

they have value, adds new perspective and dimension, and can promote a more inclusive and layered museum experience.

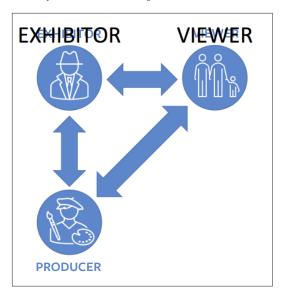


Fig. 2. The Producer (Artist/Maker) is present in the conversation with the Exhibitor (Museum), and Viewer (Audience/Visitor). In the 1990s, art historian Michael Baxandall suggested that the connection between the viewer and the producer was as important as the viewer's connection with the exhibitor.

A Fourth Player at the Table. Today, we are recognizing that there is a powerful fourth agent that plays a key role in shaping museum experience. I call this party the "influencer." This role is external to the museum but has clout in their group or their community of interest. This agent might be a board member, or a visitor playing a facilitator role, such as a teacher or parent. But they might be only peripherally connected to the museum, such as an influencer on social media. Or they might not be connected to the museum at all, such as a politician or other respected individual whose teachings and opinions matter to their community.

Although museums remain trusted institutions, our publics rely heavily on external parties to guide and reinforce their opinions.⁶ And these beliefs and motivations are shaped by their personal suite of influencers (fig. 3).

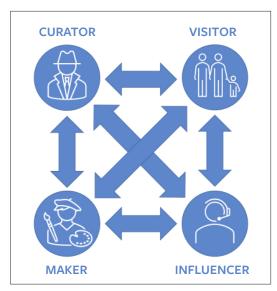


Fig. 3. Today, we recognize Influencers as key contributors to the conversation. There are forces acting between the four agents that could throw off the balance of the experience, or could introduce barriers.

So now we have four agents involved in the museum experience:

- 1. Curator,
- 2. Visitor,
- 3. Maker, and
- 4. Influencer...

...each with their own preoccupations, priorities, values, and intentions that ripple across each other, creating unique intersections and results...but also creating opportunities for conflict, dissonance, and misalignment. Using the principles of bridge-building, we

can identify and remedy the trouble spots, and promote great connections that will result in successful and effective exhibitions.

Building Bridges to Create Effective Exhibitions

Bridges are about connections. They are useful structures, designed and built to connect and support with efficiency, economy, and artistry. If we look for opportunities to "build bridges" between an exhibition's agents, we can contribute to some unique and effective experiences. Bridge-building also gives us some concepts to apply when assessing and addressing issues that arise during exhibition development.

There are two principal forces that act on a bridge: *tension*, where opposing forces are competing to pull things their way, and *compression*, where heavy loads bear down on the structure and threaten collapse: concepts familiar to exhibit developers working to deadline with multidisciplinary teams!

For bridge-building (and team building), "the best way to deal with these powerful forces is to either *dissipate* them or *transfer* them. With *dissipation*, the design allows the force to be spread out evenly over a greater area, so that no one spot bears the concentrated brunt of it.... In *transferring* force, a design moves stress from an area of weakness to an area of strength."

Let's test the utility of this bridge-building analogy by applying it to two challenges we faced in recent exhibitions at the Canadian Museum of Nature, Canada's national museum for natural history and the natural sciences. The museum has 80,000

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square feet of gallery and exhibition space, and welcomes approximately 400,000 visitors per year. It is home to six large permanent galleries, presents several temporary exhibitions annually, and creates traveling exhibitions on natural history topics.

Test Case 1: Shadowland

Shadowland, a 3,500-square-foot exhibition that opened in December 2021, features a series of framed large drawings depicting transcribed shadows cast by taxidermized animals, skulls, and bones. Created by artist Lorraine Simms, the poetic images that result are intended to inspire reflection, wonder, and appreciation for nature (intro image).

One force at play when planning this exhibition was *tension*: some museum staff were concerned that visitors would not connect with a fine art "white box" show in a natural history museum context. Agents implicated in that tension would be:

- 1. Maker = Artist
- 2. Curator = Museum staff
- 3. Visitor = Families with young children
- 4. Influencer = Family facilitator

To manage that tension, we elected to *transfer* the stress to an area of strength, and to deliberately build a bridge between the maker and the influencer. This involved negotiating with the artist to add an element of natural history interpretation to the labels for each drawing. Here's an example of museum content added to a label for a drawing of a polar bear skull:

The word *maritimus* in the polar bear's scientific name provides a clue as to where polar bears live: on sea ice!

The maker (artist) had chosen to use the Latin name of their subject, *Ursus maritimus*, as the title of the work, and the family-friendly label provided a tool to help the influencer (in this case, the family facilitator) access the art and make it engaging for their family. The museum also offered a public programming activity where visitors could make their own art using similar techniques, and created a scavenger hunt linking the subject matter of the exhibition to other content in the museum.

Result of Bridge-Building: In visitor surveys, positive comments about *Shadowland* outnumbered negative comments 13:2. Highlights for visitors included "spending

time with my family in a stimulating environment – I really enjoyed the shadow exhibit" and "my oldest son spent our entire visit in the interactive art room trying to create his own art." The overwhelmingly positive response and the lessons learned through the "building bridges" approach (such as, the value of facilitating connections between an artwork and the viewer) have given the museum confidence to program more fine art exhibitions in the future.

Test Case 2: Planet Ice – Mysteries of the Ice Ages

Planet Ice: Mysteries of the Ice Ages is a 7,500-square-foot travelling exhibition that explores the importance of cold and ice to the Earth and its inhabitants. The show combines environmental science, natural sciences, human history and culture, current scientific research, and thought-provoking questions that promote dialogue around climate change and inspire creativity to consider solutions for a sustainable future.

Both tension and compression were forces that factored into the development of *Planet Ice.* Tension because this was an ambitious project with multiple stakeholders and a complex theme that necessitated a departure from the museum's typical approach to storytelling. Compression due to a heavy workload, complicated by the requirement to redesign some exhibits and to work from home during the 2020 COVID-19 pandemic. We managed these forces by applying the strategy of dissipation; in this case, spreading the work among multiple sub-teams, each with a different leader and with one or more partners from outside the museum (such as artists, filmmakers, and immersive-experience specialists).

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Fig. 4. Interactive exhibits in *Planet Ice* demonstrate concepts that are sometimes in the arsenal of climate change skeptics, such as "climate is about energy from the Sun, not about humans." By presenting this content factually and respectfully, the museum circumvents cynical response and provides a trouble-free space for dialogue.

We created a sub-team for each of the following: interpretive planning; artifacts and specimens; design and fabrication; and interactives and multimedia. We held weekly, regularly scheduled video conferences that brought together the leaders of the sub-teams to ensure overall alignment and coordination.

Planet Ice content developers were concerned that climate change skeptics would challenge and/or dismiss the premise of the exhibition. Agents implicated in that tension would be:

- 1. Maker = Exhibition designers
- 2. Curator = Content developers
- 3. Visitor = Families with young children
- 4. Influencer = Climate change skeptics

The exhibition team decided to overtly address the antagonistic arguments that might be presented by skeptics, actually addressing those arguments in the exhibition. (These included the following statements: "Climate change is normal and has been occurring for millennia"; "Plants and animals can adapt"; and "We humans have little to do with it, or about it.") The team created

exhibits about Earth processes, animal adaptation, and human impact, presenting the facts associated with those arguments along with specific examples to support the scientific consensus around climate change and provocative questions to encourage visitors to consider possible futures and solutions. The idea was to give a voice to that dissenting agent – in other words, to build a bridge between the curator's position and the influencer's – to create conditions for productive dialogue (fig. 4).

Result of Bridge-Building: Exit surveys conducted by the museum showed that visitors (fig. 5) came away with the messages that the exhibition team was hoping for: "Ice is an important component of life on Earth"; "The planet is warming"; "We are all responsible for the planet." Perhaps most importantly, the experience has been transformational for the museum in terms of process and approach to exhibition development. Working with external partners exposed museum staff to new ideas and approaches. By distributing leadership of the exhibition development process, we established a strong foundation for future

projects, as the teams refined their project management skills, devised effective communications processes and strategies, and embraced new collaborative approaches.

Conclusion: If You Encounter an Obstacle, Try Building a Bridge!

Bridge-building concepts can be interesting to apply in exhibition development. We can foster success by scanning for evidence of the forces of tension and compression in exhibition teams – and applying strategies of *transfer* and dissipation to mitigate those forces.

Furthermore, it can be helpful to consider four types of agents involved in museum experiences: curator, visitor, maker, and influencer. Identifying and acknowledging the different roles, intentions, and perspectives of these agents, and deliberately building bridges between those that seem to be in

tension, can help overcome differences and strengthen relationships to create more effective exhibitions.

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- Michael Baxandall, "Exhibiting Intention" in Ivan Karp and Steven D. Lavine, eds., Exhibiting Cultures: The Politics and Poetics of Museum Display (Washington: Smithsonian Institution Press, 1991).
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Fig. 5. At the exit of Planet Ice, visitors are reminded that there are many types of actions that humans can take to keep things cool on Earth, and are invited to consider how they will "celebrate and preserve the planet's ice."



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