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INSIDE: I-WISE: INDIGENOUS WORLDVIEWS IN INFORMAL SCIENCE EDUCATION

PLUS: THE CREATION OF PLANET WORD, WHAT WE'RE MISSING IN
MUSEUMS AND HOW TO GET IT BACK, AND MORE!

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PARADISE LOST: WHAT WE'RE MISSING...AND HOW TO GET IT BACK

By David Whitemyer

I am and always have been a passionate museumgoer. My mother likes to repeat the anecdote of the first time she and my father brought me along on one of their weekend museum trips, rather than leave me home with a babysitter. This was in the early 1970s, before plush UPPAbaby strollers and acceptable public temper tantrums. They encouraged me, an energetic four-year-old, through the grandiose lobby and marble halls of Chicago's Field Museum. After a few hours of peering into the many cabinets of curiosity, they said it was time to go. I fell to the floor, refusing to budge, crying, "I haven't seen everything."

Very little has changed, and when I now drag my own wife and children to museum after museum, I still whine a bit if I haven't seen everything.

But, like nearly everyone, I haven't had the opportunity to visit many museums in the last twelve months through the ongoing pandemic, as many have been closed and I've been trying to play it safe from home. This saddens me, as simply being physically inside a museum brings me great joy.

During the last year, through lockdowns, closures, and reduced visitation, museums have been doing incredible, hard work to remain valuable to their communities and to share engaging, informative content. They've been supporting education as leaders in informal learning, providing hours of online resources - from art courses and sociology to science and natural history - to classrooms and home-school students. Museums have been promoting culture and content through virtual tours, online exhibits, and expert-led experiences. Some are giving back to their communities by assisting in COVID response efforts, delivering supplies to elders, and donating masks and gloves to medical facilities. And they're supporting museum professionals through online networking opportunities, idea-sharing and free career courses. While we're all missing museums, they've certainly risen to the occasion.

Of course, it goes without saying: although museums are doing amazing work to support communities and to remain relevant, online experiences just don't come close to giving us what an in-person museum visit does. I recognize that not every museum is currently off-limits, but we're all familiar with the disheartening statistics. According to

Colleen Dillenschneider, of Know Your Own Bone, visits to cultural entities in 2020 are only 40.5% of what they were in 2019 (Dillenschneider, 2020). And an American Alliance of Museums survey performed last year, shows that directors from nearly one-third of U.S. museums worry that they're closed forever (Trepany, 2020).

From this, here are three things we've temporarily lost because of the pandemic and resulting museum closures, along with suggestions on how to consider these experiences more carefully as we plan for upcoming exhibitions and for the post-COVID future of museums.

1. SPATIAL EXPERIENCE

"When designing physical spaces, we are also designing, or implicitly specifying distinct experiences, emotions, and mental states," writes Finnish architect Juhani Pallasmaa, in the book *Architecture and Empathy* (Pallasmaa, 2015). As designers, "we are operating in the human brain and nervous systems, as much as in the world of matter and physical construction." This is true for both architects and exhibition designers, where we strive to do more than fulfill a building program or convey exhibit content, but to create a four-dimensional experience of wonder, awe, and beauty.

Museums and exhibitions provide far more to people than content-delivery - more than artifacts, information, and programs - which cannot be experienced via Zoom. Whether classical or contemporary, museums are a walk-through experience, with an array of textures, finishes, light, shadows, and perspectives. They are experienced uniquely at different times of the day and in different seasons.

As we (fingers crossed) leave our homes and re-enter the world in the coming months, our minds and bodies will be eager for these multidimensional experiences. Curators, exhibit designers, and architects (and landscape architects, and media specialists, etc.) must work together to create holistic visitor experiences and aesthetic harmonization in museums. Our collective goal is not just to give value to the stories being told and to the artifacts being displayed, but to the spaces in which they're shared.

2. ENCOUNTERS WITH STRANGERS

In a 2008 Museum 2.0 blog post, Nina Simon writes about the joy that comes from encounters with strangers - sometimes called accidental interactions - in museums (Simon, 2008). She posits six conditions within which “non-compulsory participation encounters with strangers” may occur: a desperate need for information, an uncertainty about rules, unusual rules, intimate observations of an extraordinary event, doing something aberrant, or carrying something strange. When any of these things occur, it encouragingly allows us to engage with strangers. These encounters can sometimes be uncomfortable or unwelcome, or meant in jest and with warmth, but they have value in museums where participatory experiences can enhance both learning and fun.

With virtual museum tours or live online programs, scheduled through registration and a calendar invite, we miss these accidental opportunities for social niceties and quips. Even informal networking Zoom gatherings and “breakout rooms” with museum colleagues, because of our fairly homogeneous mindsets, don’t really foster rich surprise interactions.

Simon suggests, “Creating a place for participation is not enough.” In order to design museum environments that encourage encounters with strangers, there needs to be a way for visitors to mediate rules and events, and with enough non-uniformity that expectations are twisted. Looking ahead to museum re-openings and new exhibitions, let’s strive to create spaces and experiences that surprise visitors and bend behaviors, giving museumgoers a push to interact with one another.

3. PRESENCE OF GREATNESS

In the early 20th century, famed pianist and Polish Prime Minister, Ignacy Jan Paderewski is said to have visited Beethoven’s home museum in Bonn, Germany. Stopping near the piano where Beethoven composed the bulk of his most notable works, the museum director offered Paderewski the opportunity to play the instrument. He is reported to have declined, with tears in his eyes, claiming that he was not even worthy to touch it. This awe - this opportunity to be in the presence of greatness - is something that, more and more, only museums can give to us. There’s a reason why visitors at the Smithsonian’s National Museum of Natural History flock to the Hope Diamond, one of the most famous, valuable jewels on earth. The crowds at the Louvre don’t swarm Leonardo da Vinci’s Mona Lisa to “appreciate” it, but simply to be next to it. Museums provide us the chance to stand near tangible authenticity and relevance: the first, the last, the most unique, the most famous, the most important or innovative.

YouTube videos and Zoom sessions can’t compete with this. A picture or a film about an object doesn’t provide the same palpable feeling of being within arm’s-length of eminence and status. And say what you will about selfies! Love them or hate them, they add value to museum experiences as many visitors long to share their once-in-a-lifetime encounters with greatness via social media.

Although we (fairly, I believe) hold ourselves in high esteem, museums are competing with numerous other options for people’s leisure time. Museums are competing with movie theaters, malls, wacky Instagrammable pop-ups, and even Netflix. And they can win by promoting what pretty much only museums can provide: real things. When visitors begin returning to museums, and we start developing new exhibitions, highlight what you’ve got. Bring out the good stuff, and woo prospective guests by the invitation to stand in the “only-here, LIVE, in-person!” presence of greatness.

PARTING THOUGHTS

We’ve lost so much more than these three things. We’ve lost people-watching in museums. We’ve lost the joy of simply seeing new things and being amongst art in public indoor spaces. We’ve lost the experiential and hands-on learning opportunities that museums provide so well. And most notably, according to a November 2020 American Alliance of Museums article, we’ve heartbreakingly lost nearly 30% of museum staff (AAM 2020).

Despite these losses, I remain hopeful and optimistic about the future of museums. People will return! And I believe that by thoughtfully considering our losses - with some creativity and forward thinking - we can offer visitors more rich and engaging museum experiences than we have in the past. This is a serendipitous opportunity to press the Reset Button for museumgoers, and a chance to introduce and invite new audiences who rarely - or never - visit our cultural institutions. People will crave in-person experiences and be eager for ways to engage with one another outside of the digital world and away from their homes. As the saying goes, you don’t know what you’ve got until it’s gone. So, when we get it back, post-pandemic, let’s make it better than ever.

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NE STEM 4U: AN 8-YEAR REFLECTION ON BUILDING THE NEXT GENERATION OF THE STEM WORKFORCE VIA PROFESSIONAL DEVELOPMENT EXPERIENCES

By Nikolaus Stevenson, Amie Sommers, Neal Grandgenett, William Tapprich, and Christine Cutucache

The need for an expanded and diversified science, technology, engineering, and mathematics (STEM) prepared workforce continues to remain a major imperative within the United States. Urban, metropolitan universities are uniquely positioned to meet the needs of the STEM workforce pipeline head-on because of their strong partnerships with their surrounding community, including employers. This network of talent generators (i.e. universities) and stakeholders (i.e. corporations, K-12 schools, non-profits, or other employers for college students within the city) serve as an important ecosystem for the support, and enhancement, of a STEM-prepared workforce. Metropolitan areas are supporting the need for undergraduate preparation in STEM disciplines through the development of STEM Learning Ecosystems, comprised of 89 systems throughout the United States that bring together multiple stakeholders (STEM Ecosystems, 2020). These formal Ecosystems bring together school districts, informal and out-of-school time (OST) partners, in addition to philanthropic, business and industry partners (STEM Ecosystems, 2020). The formation of such Ecosystems was presented as the final, distinguishing factor in a the “Charting a Course for Success: America’s Strategy for STEM Education” document from the White House (NSTC, 2018).

Consequently, the Nebraska Science, Technology, Engineering and Mathematics 4U Program (NE STEM 4U) at the University of Nebraska at Omaha was founded eight years ago, in order to provide a pre-professional training program to undergraduate and graduate students at UNO, while simultaneously supporting the needs of local partners in the OST context in both urban and rural settings. Particularly in urban metropolitan areas, the need for programming in the afterschool time is significant. Within just the city where the hub of this program resides, there are more than 55,000 youth in just one of the school districts, most of which are high need. The value that a program like NE STEM 4U brings is to prepare undergraduates for the workforce, while synergistically filling a gaping community need. For perspective, youth spend approximately 80% of their hours in non-school time and this time can be used to enhance learning (Wherry, 2004). The NE STEM 4U program uses the OST to bring hands-on, minds-on activities with directed mentorship in a sustainable way to youth. This mutually beneficial program design has helped UNO retain more students in STEM through graduation, while also raising awareness of college and STEM career pathways among youth (Cutucache et al., 2018; Leas et al., 2017; Nelson et al., 2018; Nelson & Cutucache, 2017).