Best of Both Worlds
Museums, Libraries, and Archives in a Digital Age

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Today’s digital revolution is providing a dizzying array of tools that offer opportunities for learning institutions all over the world to become more vibrant and accessible. This revolution provides the means to share vital information, enabling people to learn more, shape informed opinions, and make decisions in their daily lives. Suddenly, everybody can have access to information that previously was only available to the experts. Everybody can take part in the creative processes of institutions that once were not even in public view. However, this unprecedented and continuous shift has left many institutions struggling to adapt and is forcing them to rethink how to maintain their unique qualities while at the same time adding value. Today, no organization is immune to the disruptions caused by technological innovation.

We at museums, libraries, and archives must ask: How can we prepare ourselves to reach the generation of digital natives who bring a huge appetite — and aptitude — for the digital world? Are we capitalizing on the limitless possibilities that digital technology creates by applying it in innovative ways across our institutions? We must also consider an even bigger challenge: Are we using our content and new technologies to bridge what New York Times columnist David Brooks calls the “opportunity gap,” an increasing disparity between the educational opportunities available to children in upper income groups and those from lower income groups?

Actually, for the Smithsonian, and for our peers in other museums, archives, and libraries, technology has created a golden age of opportunity. Online access to digitized objects, images, and records is democratizing knowledge, enhancing the visits of the many who come to us in person, and extending our reach to the millions who cannot. Coupled with social media’s powers of connection, digital technology exponentially increases the capacity of individuals to engage with our collections and upload their own stories. It is also closing the gap between formal and informal education, allowing museums, libraries, and archives to step in and assist the K-12
educational system with intellectual and physical resources. And by facilitating partnerships and collaborations among institutions, digital technology offers the public a streamlined way to access information and take advantage of powerful, jointly curated exhibitions.

If — as declared by the founding fathers — education is essential to democracy, then it stands to reason that so are museums, libraries, and archives. These institutions are prime providers of informal education and serve as resources for scholars of all ages. Certainly the challenges of digital transformation are formidable, but if museums, archives, and libraries can learn different behaviors, they can take on a new and elevated role. By combining the strengths of our physical collections with the potential afforded by digital technology, we can truly offer the best of both worlds.

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A CHANGING ROLE FOR MUSEUMS, LIBRARIES, AND ARCHIVES

Even before the advent of today’s enabling technology, thought leaders in museums, libraries, and archives recognized the need to connect with visitors in ways that prioritized public learning and advanced all forms of literacy. However, it was in the academic world where digital technology began early on to have a transformative impact. Universities were created that exclusively used virtual offerings, computers were required on many campuses for all students, and the old models of the classroom were questioned. Today this evidences itself in innovations like the flipped classroom concept, which allows faculty to spend less time lecturing and more time interacting with students, and MOOCs, or Massive Open Online Courses, where enrollments swell to more than a hundred thousand participants. At the secondary level, disruptive technologies like the Khan Academy’s elegant electronic-blackboard math lessons offer learners everywhere free access, and reinforce building knowledge as opposed to advancing through classes regardless of whether the fundamentals are mastered.

LIBRARIES AND ARCHIVES, which often belong to academic institutions, were among the early adopters of digital technology. With their “open access” ethic, they embraced both digitization and social networking early on and began to ask, “What would the model look like if visitors could explore the collections on their own
Libraries and archives were among the early adopters of digital technology. With their “open access” ethic, they embraced both digitization and social networking early on and began to ask, “What would the model look like if visitors could explore the collections on their own terms?” This led to a shift in focus from dispensing information to facilitation and assistance. Documents once hidden in stacks or in storage facilities are suddenly becoming accessible on demand. The Biodiversity Heritage Library, a Smithsonian-led consortium of libraries operating on six continents, is digitizing and making accessible the legacy literature of biodiversity. The European Union-sponsored digital archive Europeana is capturing that continent’s cultural heritage. Across the world, large collectives of libraries and archives with overarching collections provide access that spans institutional boundaries and scales the walls of both disciplines and geography. Other impressive examples of success include the Library of Congress, whose priority focus called for digitizing special collections such as presidential papers, and the National Archives, who prioritized the digitization of heavily used records, such as the landmark 1940 census, which captured massive American population shifts caused by the Great Depression, the Dust Bowl, and early mobilization efforts for World War II.

Museums have had a tougher road, complicated by a low level of technical infrastructure, the complexity of collections, and a culture that is built more around curated exhibitions than open access. Still, there have been successes. The Metropolitan Museum of Art’s Heilbrunn Timeline of Art History, an early digital model for art collections, is today a respected scholarly resource and digital learning vehicle that attracts millions. Maintained through endowment funding, the Timeline makes 5,000 years of art accessible to the public. Impressive regional efforts include the Indianapolis Museum of Art’s ArtBabble, a video channel providing documentary videos about art with an interactive component. And more and more high-quality digital collections are being made available online; some museums, notably the National Gallery of Art, the Los Angeles County Museum of Art, and the Rijksmuseum in Amsterdam, place no restriction on the use of their high-definition digital images.

Museums are also building technology into physical spaces to expedite learning. For instance, the nation’s science museums are improving virtual field trips by adding interactive components that let presenters talk to students in real time. They employ data visualization methods and interactive tools that allow visitors to explore “what if” scenarios. Cloud technology offers the next quantum leap, helping museums upload their collections and records and enabling visitors to connect to an infinite variety of sources.

The lesson to be learned is that there is a place for both the physical and the digital, with one complementing and leveraging the other. The physical museum offers visitors the opportunity to experience the real object and to share their impressions with family and friends, and also provides the content, expertise, and collections that digital museums draw upon. Digital access can then provide limitless opportunities for engagement and lifelong learning.
THE SMITHSONIAN’S DIGITAL JOURNEY

Since its founding in 1846, the Smithsonian has been free, open to all, and a favorite destination for people the world over. We know that something important happens to individuals when they visit in person. The “Smithsonian experience” is often described as a spark or catalyst that prompts curiosity. But this raises the question: why should such an experience be limited to those who can visit in person?

Within the Smithsonian, some of our museums have been pacesetters in adopting digital technology; as early as the 1970s our National Museum of Natural History began to digitize selected natural history specimens, and the Smithsonian American Art Museum developed the first searchable database of American art. But not until 2009 did the Smithsonian develop a pan-Institutional approach, taking a hard look at prioritizing the 137 million objects to be digitized. Plans include a “charter collection” of objects to be rendered in 3-D, a technology that will allow objects to be viewed in ways not possible when on display in a museum setting.

Digitization is a must for the Smithsonian in a world in which, every day, people should be able to access its treasures through a wider range of electronic and mobile devices. Today’s visitors demand a constant supply of fresh material. A website for the National Museum of Natural History’s Human Origins exhibition connects visitors to related educational materials that are updated daily. Additionally, the Smithsonian is incorporating digital technology into all new exhibitions and museums. When the Cooper-Hewitt, National Design Museum reopens in 2014, visitors can use a digital stylus to generate their own designs, working with images from the Museum collections. And those eager to imagine what the new National Museum of African American History and Culture will look like can download a free app to see a 3-D model of the building.

To encourage innovative thinking, in 2010 the Smithsonian assembled 30 leading lights of the digital world with an equal number of Smithsonian staff members to explore imaginative ways to apply technology and further our reach. From that conference emerged the National Museum of African Art’s
Artists in Dialogue, in which two artists on different continents interacted in real time to create two works of art based on a common idea, and Smithsonian Wild, a website that shows the public what scientists see in their research through the use of camera traps — automated cameras with motion sensors that record the diversity of animals and behavior that passes in front of them in real time around the world.

From social media to digital games and from online courses to crowdsourcing, the Smithsonian is taking advantage of digital technology to identify species and verify objects; we are inviting students to participate in scientific exploration and members of the general public to contribute stories of their own. We have done a great deal in the last decade, but recognize that there is much left to do.

UNFINISHED BUSINESS
After years of promise, digital technology is transforming society as we know it. Either institutions embrace it or they risk becoming marginalized. That said, we have to recognize the often formidable challenges of implementation, such as the high cost in dollars and manpower, the question of how to make progress when the technology constantly changes, and the relative lack of standards, just to name a few.

To succeed, we must focus on a few principles. These begin with the use of digital technology to enhance the in-person visitor experience, engage and involve the public, and extend the benefits of our scholarship and collections to audiences not served today. Our organizational structures should emphasize adaptability to speed accommodation to new technology, and our oversight organizations should share best practices, encourage use of common technology, and standardize methods. We should encourage the use of digital volunteers who can help with the large-scale task of converting handwritten records and historical documents to a digital format.

Equally important, museums, libraries, and archives need to adopt a “one for all and all for one” attitude, recognizing that partnerships and collaborations will help us serve the widest possible audiences. Cloud-based technology is critical to these partnerships, allowing us to link digital assets, offer powerful ways for users to search for information across institutions, and curate joint exhibitions.

One of the greatest benefits of digital technology is the opportunity to support K-12 education as never before. Museums in particular can bridge the gap between formal and informal learning with lesson plans, online summits, real-time connections to experts, and better credentialing of informal digital learning. Cultural institutions and museums are here to stay, and they will continue to inspire people by giving them an opportunity for shared learning and the experience of the real thing. But despite the challenges of implementation, digital technology allows us to do what we have never done before: to reach the millions who do not or cannot visit in person; to help all the people, not just a few, understand our culture, the cultures of others, and life in all its dimensions.