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Put the Muse Back in Museums

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California Academy of Sciences beyond the Concourse plaza, in Golden Gate Park, San Francisco, California.
Credit: [Leonard G. via Wikimedia Commons](#)

When I was in graduate school studying ecology during the 1980s, we all shared a conviction to make the world a better place. Oh, the power of youthful optimism and energy! We had hopes of stopping rainforest degradation, reversing coral reef decline, saving endangered species and ensuring clean air for everyone.

Thirty years and thousands of eager graduate students later the planet has lost more than 50 percent of her primary forests, atmospheric carbon dioxide now exceeds 400 ppm and 70 percent of coral reefs have been destroyed. The best efforts of our brightest and most dedicated minds have failed to stop—much less reverse—global environmental degradation. Clearly, even in this age of astounding technological achievement, scientific innovation alone is not enough to change our current course. There is a critical need to alter the way

in which science serves society—and the best place to start is with our youngest generations.

It's no secret that the effectiveness of formal science education in the U.S. has been on the decline for some time. On average, Americans spend less than 5 percent of their lives in the classroom. Statistics indicate that our K–12 science education lags behind many other countries, and despite amazing new technologies and a steady stream of brilliant graduate students, America's science literacy is waning. There is a bright spot in all this gloom, however: informal science education, where students learn outside the classroom, is proving to be increasingly effective.

Museums are at the forefront of this movement. More Americans visited museums in 2012 than attended sporting events. To keep visitors engaged these institutions now provide educational gaming, after-school science programs and virtual expeditions that link classrooms to scientific research. Not only are kids staying connected, they're learning scientific concepts and understanding the scientific process.

Yet museums need to do much more. Too many people still think of science museums as dusty places filled with dead animals in jars and artifacts from ancient explorations. What would it take for American science museums to overturn this stereotype, to compete with malls and movies? What would it take for science museums to become more relevant?

Confronting some of the planet's most critical issues, such as climate change and loss of biodiversity head-on, might be a good start. So would dedicating a portion of their budgets and exhibit space to engaging the public in the true facts about sea level rise and ocean acidification. Imagine if every science museum brought young people into direct contact with practicing scientists so they could see that the latter are not geeks in white coats but normal human beings helping to answer fascinating questions as well as resolve some of the most pressing issues humankind has ever faced.

What if science museums engaged their local communities in monitoring invasive species using mobile apps and surveyed biodiversity in native trees (versus exotics) so that more people could learn about, and appreciate, what lives in their own backyards? What if all museums created action plans to empower people to help reduce carbon dioxide emissions? By becoming a forum for community involvement and by using the hooks of technology, exploration and sustainability solutions to inspire science literacy, museums have as much power to change the world as any technological innovation.

Developing a funding model for such innovative approaches seems a necessary first step. In the business world benefit corporations (B Corps) include an element of sustainable operations as an added value for shareholders. Instead of offering stocks with monetary remuneration alone, B Corps, such as Seventh Generation, Patagonia and Bert's Bees, also commit to creating positive environmental and societal impacts. What if all science museums followed this model (maybe calling ourselves "B-Muses"), whereby a significant component of each museum's portfolio reflected relevant sustainability education and research initiatives? In addition to timeless exhibits about biodiversity, adaptation or the aerodynamics of flight, benefit museums would dedicate a portion of their floor space to relevant sustainability issues and solutions: the decline of monarch butterflies due to habitat alteration, ocean acidification and loss of coral reefs or the challenges and benefits of renewable energy technologies.

Of course it doesn't have to be, nor should it be, all gloom and doom. Perhaps the most important message benefit museums can convey is that all is not lost, that each one of us has an active role to play in the finding solutions to the issues we face.

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