

Kathleen McLean

*Director of the Center for Public Exhibition
and Public Programs, Exploratorium*

So many of our conversations about science exhibitions today focus on exhibit-development *processes*: how we organize the people involved, define the scale of a project, and design environments that attract visitors and support their experiences. But what about the *ideas* at the heart of an exhibition? How can we pay more attention to what I believe museums do best—provide a forum for exploring and sharing ideas? In our rush to improve our *practice* (“practical work,” from the Greek), we rarely allow room in our minds to entertain compelling but perhaps impractical ideas. Yet if we don’t honor the world of the mind and the realm of imagination in our own work, how can we expect our exhibitions to inspire the minds and fire the imaginations of our visitors?

In the push to get more and more people through our doors, we target our exhibitions for an undifferentiated public who, we assume, is turned off by complex ideas. At the same time, our increasing focus on links with formal education and science standards often means that we give short shrift to interesting ideas that may seem irrelevant or tangential to specified learning goals. The resulting exhibitions may be designed to reach or teach, without an ability to engage or inspire. In my experience, whenever museum exhibitions have been designed around a creative exploration of ideas—ideas that have some substance—visitors *do* attend and appreciate our efforts.

Economic pressures are forcing museums to rely increasingly on exhibitions, their major public feature, to attract larger numbers of admission-paying visitors. In science museums, this often translates into a one-size-fits-all approach to exhibition development, with many developers and designers opting for a philosophy that might be summed up by the one-liner “science is fun.” While science can indeed be “fun” if we take the word to mean “enjoyable” or “playful,” some science-exhibit developers believe that many scientific ideas are actually difficult and boring. They work to make science palatable with idea-free exhibitions about oversized trucks, robotic critters,

and superheroes. Their definition of “fun”—light and silly—plays itself out in many exhibitions touted as being about science, particularly when they are conceived, designed, and developed completely by non-scientists.

Economics is not the only force that has shaped the way we explore ideas. Historically, museums were the homes of content experts and resident scholars who oversaw object collection, research, and interpretation. While their presence ensured an expert voice at the table, theirs were often the only voices when it came to decisions about exhibition ideas and content—and they were usually most interested in delivering information. The current effort to popularize museum exhibitions undoubtedly grows out of a reaction to exhibitions conceived and designed by experts with no understanding of visitors’ prior knowledge or questions—often resulting in experiences that force too much scientific information on unwilling participants.

In order to create more accessible and engaging exhibitions, many museums shifted away from a content focus and towards an educational focus. While this had a salutary effect on the cognitive accessibility of exhibitions, the shift sometimes went too far, with the resulting exhibitions exuding a teachy “Dick and Jane” feel. As if that was not enough, adopting the notion of an “experience economy” has led to “experience designers” replacing educators and cheerful yet forgettable experiences replacing learning. At one end of the spectrum, then, we have a plethora of simple-minded but fun exhibitions; at the other end, exhibitions that are meant to teach, in either a dense and information-heavy way, or in the style of a school lesson plan. And none of these approaches supports the notion of exploring ideas.

In order to understand the range of possibilities for focusing on ideas in exhibitions, it’s worth reflecting on the evolution of our practice. The European curiosity cabinets—early ancestors of museums and their exhibitions—were, like all human constructions, reflective of their creators’ times and perspectives. For the most part, they celebrated a growing understanding of the world and an embracing of ideas that characterized the “Age of Enlightenment.” Few, if any, distinctions were made between objects and ideas of science, art, and industry. Over time, these *wunderkammern* evolved into some of the great

museums of Europe. And as domains of science, art, and technology became increasingly defined and specialized, some of these collections branched off into separate art, science, and natural history museums. Industrial and technological collections either evolved with the sciences or grew into their own types of history, culture, and technology museums. Aquaria, zoos, and botanical gardens also evolved somewhere among the branches of this family tree.

Since they sprang from similar roots, it's not surprising that, by the beginning of the 20th century, the primary motivations of most art, science, history, or technology museums were quite similar: to collect objects and show them for the edification (with all of its moral overtones) of a variety of publics. By the mid-1900s, a new organizational sub-species—the science center—had evolved from the science and industry museums, and with a bit of children's museum interbreeding. They managed to survive and thrive *without* a reliance on collection objects, and were based on philosophies that centered on the learner more than the teacher, emphasizing *visitor experience* more than learning outcomes.

This evolution has resulted in an incredible diversity of exhibitions about science, from the taxonomic collections-based displays and evocative dioramas so prevalent in natural history museums to the sets of interactive exhibits that reveal physical phenomena in science centers. These exhibitions cover all scientific domains, from biology and environmental sciences to physics, chemistry, mathematics, and the applied sciences of engineering and technology. As our understanding of the world increases and expands, exhibitions are still evolving to reflect that understanding. For example, natural history museums and zoos no longer simply display and identify the organisms and elements of the natural world—they also employ a variety of ways to present the complex interactions among those organisms and elements and to promote conservation of the world's biodiversity.

Science centers are similarly expanding their focus and exhibition techniques: While their hallmark interactive exhibits are best employed to reveal the workings of perceivable natural phenomena, leading-edge research in science lies more and more in realms of the invisible and abstract, like nanoscience, quantum physics, and molecular biology—realms not so suitable

for visitor physical interactions. And as scientific research increasingly becomes the topic of public debate, visitors look to science centers and museums to learn more about these complex, abstract, and sometimes contentious issues.

Exhibit developers are now faced with a wealth of new possibilities for engaging visitors with ideas. Perhaps, in order to bolster our courage in tackling the substantive ideas of science and society, it would be helpful to think about the Greek roots for the word "idea"—"to see," and "pattern" or "form." Perhaps, in considering the ideas we embody in our exhibitions, we should once again consider our ancestral curiosity cabinets, with their ecstatic embrace of the holistic nature of the world. Perhaps we should bring together scientists, artists, historians, and philosophers (who have specific expert knowledge) with the public (who has solid "common" knowledge) to embrace the multidisciplinary world we share in common. And most importantly, perhaps we need to discover new ways—more necessary today than ever before—to create opportunities together for exploring and sharing substantive ideas.