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American Technology Museums

From Machines to Culture

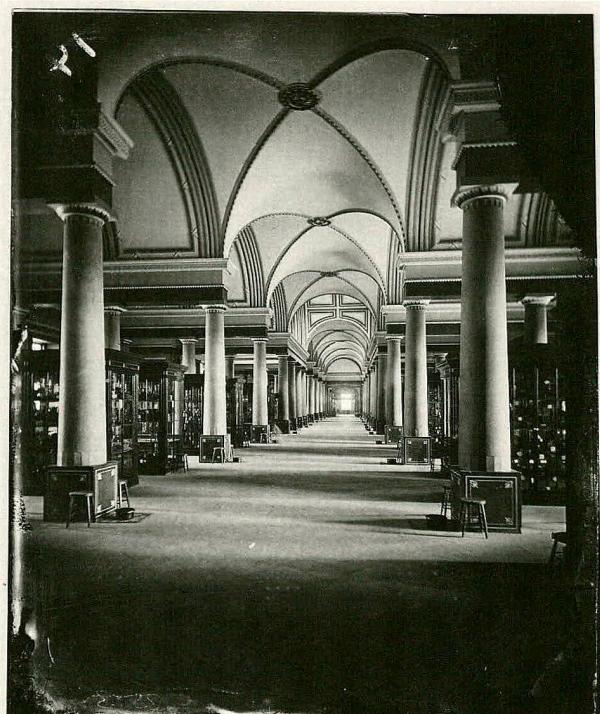
from Steven Lubar

This essay provides an overview of the history and present condition of American museums of technology, and presents some suggestions about future paths. The history is wide-ranging, for the roots of the technology museum extend beyond the usual suspects: the world's fairs, the Smithsonian, and the Chicago Museum of Science and Industry. My review of the last decade or two of museums touches on some of the topics and techniques that have defined the cutting edge of content and interpretation, and outlines the challenges that face many of these museums today. Finally, my overview of future directions suggests that we should build on the whole history of museums, not just the narrow history of the past few decades, as we try to overcome tomorrow's challenges by making these museums useful participants in ongoing debates about technology, culture, society, and the environment.

Dieser Beitrag bietet eine Übersicht über die Geschichte und den heutigen Stand von Technikmuseen in den USA und gibt Anregungen für Wege in die Zukunft. Die Geschichte der Technikmuseen ist weitgefächert, da sich ihre Wurzeln weit über die üblichen «Verdächtigen» wie Weltausstellungen, Smithsonian und das Chicago Museum of Science and Industry hinaus erstrecken. Der Rückblick über die vergangenen zwei Museums-Dekaden schneidet einige der wichtigsten Themen und Techniken an, die Inhalt und Interpretation definierten, und skizziert die Herausforderungen, mit denen viele dieser Museen heute konfrontiert sind. Abschliessend legt mein Überblick über künftige Richtungen nahe, dass wir in unserem Bestreben, die Herausforderungen von morgen zu bewältigen, über den engen Zeitraum von zwei Jahrzehnten Geschichte hinaus auf die gesamte Museumsgeschichte bauen sollten, um die Museen zu kompetenten Teilnehmern an Debatten über Technologie, Kultur, Gesellschaft und Umwelt zu machen.

History

America has a rich museum tradition – in which the museum of technology plays a very small part. The history of technology shows up in museums of many sorts: in museums of anthropology, art, commerce, culture, design, history, industry, natural history, and science, as well as company museums, mechanics' expositions, and world's fairs. At each of these venues, technology and its history play a different role. They are not technology museums, *per se*, but to understand the place of technology in the American museum we must pursue it wherever it hides. Too often museum history includes only museums that are part of the tradition in which we're interested, and it's important to broaden our view to include the historical context.



Patent Office model room, about 1860. Inventors and the general public could visit to see the models submitted by inventors as part of the process of obtaining patents.
(Library of Congress photograph)

Charles Willson Peale's Philadelphia museum (founded 1784) is the traditional place to begin the story of American museums, and it's a good place to begin considering the display of technology in museums. Peale's museum, which included natural history as well as national history, represented the nation as orderly and progressive, part of the natural order of things. Peale included Native American and other "primitive" technologies, and also some of the latest machines: "the beginning of a Collection of Models of useful, foreign, and domestick Machinery – such as the Chinese Plough and wheelbarrow; Cottle's Thrashing Machine; a Dry Dock; improved Spinning-wheel, etc." Technology fit nicely into a progressive system, setting the example for the next two centuries.¹

There was even more technology on display elsewhere in Philadelphia. A visitor to the mechanics' fairs organized by the Franklin Institute starting in 1824 could find inventors and manufacturers showing off their products. Here one could encounter the latest plow and the latest steam engine, as well as a community of technologists and a library of scientific and industrial journals from around Europe and the United States. These exhibitions and the other activities of the Franklin Institute were both technical and commercial events, showing highlights of contemporary technology along with occasional instance of historical highlights.²

Mechanics' fairs were soon to be found in every industrial city, complemented by a kind of exhibition found only in Washington, DC. Starting in the 1830s, inventors and the general public would visit the spectacular galleries of the Patent Office to see patent models on display. Because the patent system depended on prior practice, its display of contemporary technology quickly became a display of its history, one organized by function. The Commissioner of Patents called the display a "perpetual exhibition of the progress and improvement of the arts in the United States." The Patent Office became a tourist attraction, a symbol of a democracy of learning, of science and invention in the service of entrepreneurship and commerce.³ The overlap of technology and commerce was a constant through the 19th century, and in many museums of the 20th century. Indeed, invention would often come to stand for technology, and technology for industry, in America's museums.

The other successors to mechanics' fairs were international exhibitions. New York's Crystal Palace was the first in the United States, in 1853. It was followed by the better known, and much larger, International Exhibition celebrating the American centennial in 1876; the 1893 Columbian Exposition; and a succession of 20th century world's fairs. At these events, spectators admired the latest goods shown

by manufacturers and partook of the pervasive technological enthusiasm. The Columbian Exposition had a long-lasting spinoff that continued its commercial and technological displays for decades: Philadelphia's Commercial Museum.⁴

The Smithsonian Institution, with its range of museums, is a unique organization in the history of American museums, and a key locus for the display of technology and technological history. It can trace its museum roots to almost all of the predecessors noted above: the patent office, the mechanics' fairs, and the world's fairs. Founded as a national research institution in 1836, the Smithsonian didn't take its role as a national museum seriously until George Brown Goode became assistant director in the 1880s. Goode, an ichthyologist and genealogist, took an educational approach to museums; he wanted to teach visitors. "The museum of the past," he wrote in 1889, "must be set aside, reconstructed, transformed from a cemetery of bric-a-brac into a nursery of living thoughts."⁵

The Smithsonian, over the next few decades, would approach its goal of being a museum "nursery of living thoughts" in a variety of ways. In technology, there were three basic approaches. In 1886 the railroad industry pushed the Institution to hire J. Elfreth Watkins, a railroad engineer, to collect railroad history. He looked for historical relics, as well as contemporary breakthroughs. (Thomas Smillie, the Smithsonian's first photographer and first curator of photography, collected in a similar fashion.) Otis Mason, hired at about the same time, was the first Smithsonian employee with scholarly training as an anthropologist. He imagined a history of technology tracing a continuous arc from the most primitive to the most advanced, and organized objects into "synoptic series" to tell that story. Invention, wrote Mason, was the story of the progress of the human race. And in the 1910s and 1920s, the Smithsonian increasingly saw itself as a commercial museum. "Your name would be conspicuously present... and [your] products would be brought conspicuously to the attention of many technical men from all parts of the country daily," curator of mining Chester Gilbert wrote to the Johns-Manville company in 1913, offering to display their products. Gilbert had no interest in history; he wanted to display the most recent technology.⁶

Museums beyond the Smithsonian showed an even greater diversity of forms and focus in the early twentieth century. Progressives found the "civic exhibit" – photographic displays showing the problems of industrial society – to be the ideal medium to address issues like child labor and substandard worker housing. Industrialists used the same tools in their newly-created safety museums.⁷

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The Mercer Museum was created by archaeologist Henry Mercer in the 1920s to preserve the artifacts of preindustrial America. It was one of many technological museums of the era, including the Henry Ford Museum, Mystic Seaport, and the Museum of Science and Industry in Chicago.

(Photograph by Jack E. Boucher, Historic American Building Survey, 1966)

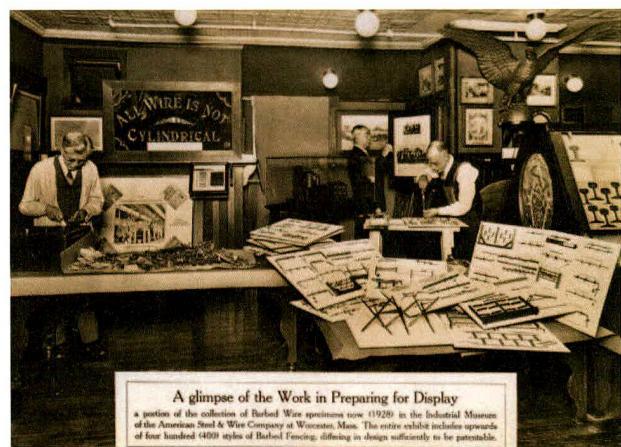
In the 1920s and 30s, industrial museums also took inspiration from new European museums. Charles R. Richards, the director of the American Association of Museums, who toured the Continent's industrial museums, urged in his book "The Industrial Museum" (1925) that America create new museums to tell the "amazing story of the inventions, devices, machines, and methods that the nineteenth and twentieth centuries have brought to bear upon our daily life."⁸

Best known to historians of technology are the Museum of Science and Industry in Chicago (1926) and the Henry Ford Museum in Dearborn (1929). Sears magnate Julius Rosenwald founded the MSI on the model of the Deutsches Museum. "American inventive genius needs greater stimulation and room for development," Rosenwald said. "I would

like every young growing mind in Chicago to be able to see working models, visualizing developments in machines and processes which have been built by the greatest industrial nation in the world."⁹ Overlaid on Rosenwald's ideas, though, were director Waldemar Kaempffert's own ideas, well described in the title of his book on the museum: "From Cave-Man to Engineer; The Museum of Science and Industry founded by Julius Rosenwald, an Institution to reveal the Technical Ascent of Man".¹⁰ Kaempffert hoped to develop Mason's ideas further, showing a history of invention leading to the present day. Less well known, but inspired by the same logic, was the Museum of the Peaceful Arts in New York.

Ford's reasons for building his museum were complex: he wanted to save an imagined preindustrial past, show off technological development, and provide a new kind of school for apprentices. Historian Michael Wallace sums up Ford's motivation: "Life had been better in the old days and it had been getting better ever since" and calls the museum a corporate employer's vision of history, "a static utopia." "The New York Times" covered the opening with the headline: "In His Museum Mr. Ford Glorifies Work."¹¹

Though none went as far as Ford, many companies had museums to showcase their technology and products. Some went well beyond that, partaking of the enthusiasm for museum presentations of progress. Bell Telephone Laboratories' "fine museum" traced the history of telephony. In Worcester, Massachusetts, the president of the Worcester Pressed Steel Company built a museum covering the whole history of iron and steel making – from an-



Barbed wire display at the Industrial Museum of the American Steel & Wire Museum at Worcester, Massachusetts, 1928. A glimpse of the Work in Preparing for Display in Industrial Museum.

(Foto: Hagley Museum and Library)

cient times, through a magnificent display of armor, ending in the modern factory itself. His goal was "to inspire [his workers], to attract superior recruits, to cultivate art in industry, to extol craftsmanship in steel, to educate the public."¹² A "New York Times" article estimated that there were ten such museums before World War I, eighty by 1944, and several hundred by the mid-1950s.¹³

Curators at the Smithsonian tried to join this movement. They had proposed, in 1924, a National Museum of Engineering and Industry. Like the others of its era, it would have been a museum of technological progress, technology separate from society and culture. It never came to pass, defeated by Smithsonian, Washington, and engineering society politics. Similar proposals were floated for the next few decades, with different balances of history, science, technology, engineering, and industry, until a compromise was reached with the opening of the Museum of History and Technology in 1964.¹⁴

Art museums became interested in "industrial art" in this period. Richard F. Bach, Associate in Industrial Art at the Metropolitan Museum of Art, urged that the distinction between high art and the art of design be abolished, and that the museum display both. Distinctions between hand-made and machine-made should be minimized, he argued, and to do that, museums should cooperate with the producers of American industrial art. The manufacturers should regard the museum as "an addition to his own facilities of production" and for that a new definition of progress was needed: that "the new thing is better because it is based upon study of the old."¹⁵

While the Metropolitan never went far down this path, other art museums did. The Museum of Modern Art, founded in 1928, included industrial design in its purview. The Newark Museum combined art, science, industry and commerce in unique ways, offering the community a place to learn about design and industry, commerce and community. Dana wrote that the one task of every museum is "adding to the happiness, wisdom, and comfort of members of its community." He believed that the museum was a key element of "cultural democracy"; his ideas have come back into fashion in recent years.¹⁶

The end of World War II brought museums a new role, preparing the public for the postwar world of new science and global concerns. Industrial museums boomed as sites to showcase the triumph of American capitalism in the Cold War. The DuPont family supported the Eleutherian Mills-Hagley Foundation's museum, which opened in 1957 at the site of DuPont's first powder mills. Boeing supported the Museum of History and Industry in Seattle. The Ameri-

can Iron and Steel Institute restored the 17th-century ironworks in Saugus, Massachusetts; R.J. Reynolds, Inc. helped restore the Miksch Tobacco Shop in Old Salem. The textile industry helped underwrite the Merrimack Valley Textile Museum.¹⁷

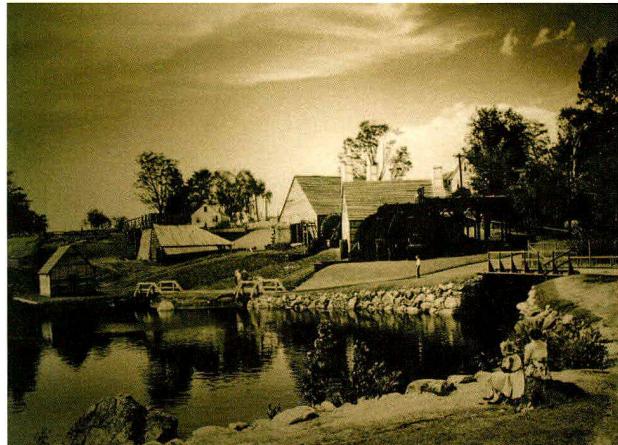
The Smithsonian found funding for renovation after the war, too, but moved not toward corporate stories, but toward a new focus on historical scholarship. The exhibit modernization program of the 1950s showcased important artifacts from the history of technology surrounded by ancillary items and products. The new exhibits of the Museum of History and Technology extended this style. Curators traced the history of machine tools, bridges, steam engines, clocks and watches, and electrical and railroad technology. These exhibitions, inspired by the great European technology museums, especially the Deutsches Museum and London's Science Museum, brought together relics, models, working machinery and how-it-works demonstrations. While focused on American innovation, they paid attention to the whole history of technology, from Babylonian astronomy to early 20th century machine tools, from Chinese clocks to Swiss innovations in bridge design. The museum name covered both of its approaches: it did the history of technology in some exhibits, and American history in others, but did not combine the two in significant ways.

That changed in the 1980s, with the social history revolution in museums, adding the stories and artifacts of labor, consumers and (occasionally) business to technological stories told by machinery. The Smithsonian's Museum of History and Technology was renamed, becoming the National Museum of American History. The new name reflected significant changes inside the building. The museum made the switch from technological stories to historical ones. "Engines of Change: The American Industrial Revolution, 1790–1860," replacing an exhibition of machine tools in 1986, addressed "new machines, new sources of power, and new ways of organizing work [that] transformed the United States." "Information Age: People, Information and Technology" opened in 1990 with an "emphasis ... as much on social as technical change." "Science in American Life," which opened in 1994, "examines the interaction between science and society."¹⁸ (Not all of the Smithsonian made the switch; the National Air and Space Museum, while adding historical and political context to some exhibitions, still thought of itself as a museum of technology, not a museum of history.)

These new exhibits differed from the ones they replaced by making context key; the machine no longer had the stage to itself, but was part of a larger story. Technology, no longer

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The Saugus Iron Works, a 17th century blast furnace and forge in Saugus, Massachusetts, was rebuilt from archaeological evidence in the 1950s. Now a National Park Service site, the rebuilding was funded by the American Iron and Steel Institute, one of several Cold War industrial museum projects.

autonomous, was a part of culture. People – workers, consumers, not only inventors – were given agency, with technology no longer driving the story. Technological history became part of industrial history, which was part of social and cultural history. Progress was never simple, but always had trade-offs. The story of factory work, though generally not organized labor, was key, with skills, hard work, and daily life of workers often the main focus. Management, thought rarely the larger picture of economic systems, was often included. Environmental costs of industrial production got some mention. The story of technological progress, of new machines, was told as a story of invention, but as a social, not heroic, history of invention.¹⁹

Objects served a new role in these exhibits. Objects had once been displayed on pedestals, either relics or exemplars. Now they were evidence in a larger story, or carefully situated in an exhibit, surrounded by words and images and video and exhibitory that showed a larger story. Or objects lost their place altogether; the story was more important. “How it works” became less important than it had been, replaced by new stories about what it did, and what effect it had on work and life.

The national park system discovered industrial history in the 1980s and 1990s. Best known is the Lowell National Historical Park, in the famous mill town of Lowell, Massachusetts. Here, the National Park Service not only built substantial exhibits of technological, business, and labor history, but also treated the entire city as a museum. Tours covered the canal system, boarding houses, even (in a 21st-

century revision) the deindustrialization of the city, recent immigration, and textiles as part of a global economic system.²⁰

Industrial museums reached their height of interest and popularity in the 1980s and early 1990s, when local historical societies, and industrial history enthusiasts, especially those located in industrial cities and towns, produced museums and exhibitions of industrial history. Most of these presented industry as a part of a local story, not part of a larger technological one. Woonsocket, Rhode Island, created a Museum of Work and Culture to celebrate the French-Canadians who labored in the textile mills. Youngstown, Ohio, Historical Center of Industry and Labor told the stories of the area’s steel mills through labor, immigration and urban history, with a (fairly rare) focus on organized labor. The Historical Society of Western Pennsylvania’s Heinz History Center, in Pittsburgh, put industry into very broad context of city life, from sports to politics. The Baltimore Museum of Industry captured the diversity of that city’s work. Many historical societies included exhibitions that told the story of their hometown industry, often combining technology, labor and social history in interesting ways.

Another group of industrial and technological museums came out of the corporate world. High-tech companies built company museums aimed at showing off their innovative history to customers and business partners. Some, like Motorola and National Semiconductor, saw the museum as a place to let potential partners know that they had been in business for a long time, and would continue to be. Others, like Microsoft and Intel, wanted to brag of their technological prowess. The Microsoft Visitors Center web site sums up the range of reasons, from history to PR to sales, for this kind of museum: “explore the vision, products, culture, and history of Microsoft . . . everything from the latest Microsoft Research innovations to the very first personal computer. Explore hands-on exhibits featuring some of the company’s most exciting technologies for home and business.”²¹

The Recent Past

The beginning of the contemporary era of museums might be traced to 1992, when the American Association of Museums published “Excellence and Equity”, a grand compromise of a document calling for museums to foster both their traditional excellence (research, scholarship, growth and care of collections) and also a new equity: “the ability to live productively in a pluralist society and . . . contribute to the resolution of the challenges we face as global citizens . . . [to include] a broader spectrum of our diverse society . . . [to have] respect for the many cultural and intellectual viewpoints that museum collections stand for and stimulate.”

This formulation should have been ideal for museums of technology, encouraging their growth toward issues of immigration, work, consumer society, and politics. The increasing fascination of the American public with technology, at least technology as defined by computers, cell phones and the Internet, should have provided the impetus for museums to address technology. Suddenly every newspaper had a technology section; technology museums might have had a similarly elevated profile. Even deindustrialization, the main theme of the American economy since the late 20th century, might have brought the attention of the American public to bear on the stories museums of technology might tell.

But in fact, the last two decades have proven a time of great challenge for museums of all sorts. Museums of technology and industry – museums of history in general – have not weathered the storms. They have not seized the new opportunities, or potential new interest. There is a range of reasons, beyond the more general problems of funding that face all museums. Increasingly, the public doesn't have a personal connection to the subject. A generation or more into deindustrialization, family ties to factories are disappearing. The very fascination with recent technology may have lessened the interest in earlier machines; a focus on the latest cell phone makes the landline phone seem of only antique interest, and as it disappears from our houses it will seem even more so. As more technology becomes black boxes, or software, it's hard to collect, interpret, and make it interesting. Finally, a changing political climate has meant that social and labor history no longer seems as important as it did in the last third of the twentieth century.

Some of the most ambitious industrial history projects have failed completely. Flint, Michigan's AutoWorld, an automobile industry theme park, opened and closed in 1984. In Boston, the Computer Museum closed in 1999. In Richmond, Virginia, the Valentine Museum tried but failed to build an ambitious industrial museum to tell the story of the Civil War era Tredegar Iron Works. In Bethlehem, Pennsylvania, a National Museum of Industrial History, at the site of the bankrupt Bethlehem Steel Corporation, aimed to tell the story of America's industrial past, but (to date anyway) has failed to raise sufficient funding or interest. The Western Reserve Historical Society's grandly-conceived Cleveland waterfront industrial and transportation museum never got beyond the planning stage, and was abandoned in 2003 – and almost bankrupted the organization.²² Heritage Harbor, in Providence, Rhode Island, came close to bringing down its parent organization, the Rhode Island Historical Society. The National Museum of American History no longer has industrial exhibitions, though it



This view of the "Engines of Change" exhibit at the National Museum of American History (1987) shows three typical elements: a photographically recreated setting with a manikin, a steam engine on display as icon; and a period room machine shop with historical machines and manikins.

(Smithsonian photograph 87-7863 by Eric Long)

does have strong, privately-funded programs on invention, and some of the old exhibits on technology remain.

There have been some successes, museums that took on the challenges of excellence and equity, or of rethinking industrial and technological history, or of focusing on core stories in new ways. The revised Lowell National Park deindustrialization exhibit addressed the diversity of the city head-on. "Between a Rock and a Hard Place: Sweatshops in America, 1820-Present," at the Smithsonian's American History Museum showed sewing machines not as technology, but as part of a sweatshop. The Minnesota Historical Society took on the full economic and social story as well as the technological one in its Mill City Museum. The Computer History Museum, reborn in Silicon Valley, has enlarged its collections and focused its appeal on those with a strong interest in the subject. The American Textile History Museum, which almost closed in the early 2000s, came back smaller, with a new focus on recent technology and a new interest in reaching broader audiences.

And there has been a revival of company museums, and factory tours. Harley Davidson is a model here. It has long opened its factories to visitors (some 60,000 visitors a year in its York, Pennsylvania, plant), and, in 2008, opened a 12,000 m² museum, as a way of strengthening its already strong ties to a community of customers. And, like other successful factory tours or public displays – the fantasy factory-tour of Hershey chocolate, in Hershey, Pennsylvania, or the many breweries and wineries open for tour –

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these operations are as much sales rooms and gift shops as sites for industrial learning. They build brand reputation and loyalty, and sell products – as well as providing at least a veneer of education in history and technology. So too do a recent fad of television programs on production, including the “How It’s Made,” on the Discovery Channel and “Unwrapped,” on the Food Network.²³

Future Directions

Today, many industrial museums are changing in significant ways, driven by the challenges of attracting an audience, finding donors, moving beyond state or federal or school board funding. Industrial museums, Harold Skramstad wrote a decade ago, “have from their beginning been pioneers in reinventing themselves.”²⁴ They are doing it again, by considering some big questions:

- How can we connect history to present-day concerns?
- How can we attract new audiences?
- How can we involve the audience and the subjects in the museum in appropriate ways?
- How might we serve as tourist hubs and economic engines?
- How might we supplement the schools or serve as a replacement for schools, especially as part of job training or retraining?

Museums have answered these questions in overlapping ways, with new projects that aim to attract new audience in new ways at the same time that they build a sustainable business model and make a difference in the world. Here are some examples of projects underway.

The Henry Ford Museum changed its name to The Henry Ford, calls itself “America’s greatest history attraction,” and showcases “the people and ideas that have fired our imaginations and changed our lives.” While it has reinforced its technological exhibits with a factory tour of Ford’s River Rouge Plant, focused on contemporary industry, it has put increasing emphasis on a widened range of American political and social as well as significant technological history. Its signature attraction now is the bus on which Rosa Parks protested segregation by refusing to give up her seat. The Henry Ford is unabashedly a tourist attraction, aiming at providing experiences, and proudly a part of the Detroit economy.

And it has returned to its roots in education with the Henry Ford Academy, a charter (that is, publicly-supported private) high school opened in 1997. Located at the museum, it takes advantage of the museum exhibits, collections and staff – not, as Henry Ford originally imagined, as a place

to learn to be, say, a machinist, but rather to be inspired by “real-world experiences that focus on innovation and creativity.”²⁵

Other museums have also turned to education. The Eli Whitney Museum and Workshop, in New Haven, Connecticut, no longer has many historical exhibits about its namesake. Instead, it has become “an experimental learning workshop for students, teachers, and families. We collect, interpret, and teach experiments that are the roots of design and invention.” The Museum “celebrates the Whitney tradition of learning by experiment” with shop classes, hands-on experiments, and a wonderful range of building projects.²⁶

The Brooklyn Navy Yard visitor center, part of the redevelopment of the former Navy ship-building and repair yard as a “green” industrial park, has also focused on education. Under development now by the Brooklyn Navy Yard Development Corporation, an organization whose goal is to promote local economic development, this exhibit will share space with a job training center whose participants will take inspiration from the stories of hard work and invention told in the exhibition half of the building.

At the Rochester Museum of Science and History, in Rochester, New York, curators and educators are looking to replace the existing history exhibits with new, livelier displays with a vocational bent. These new exhibits are to increase science literacy “through the lens of history, invention and innovation”; encourage young people’s interest in science and innovation “while learning to apply these skills to real



Trolley in front of the Boott Mill in Lowell, Massachusetts; the entire city became part of the Lowell National Historic Park, with trolley and canal boat tours explaining its industrial development.

(Photograph courtesy Edward Pershey)

life problems"; and help them "understand scientific and business principles and the associated career opportunities."²⁷ This isn't history for its own sake; rather, historical case studies, the museum hopes, will inspire and inform a generation of future Eastmans and Carlsons.

Old Slater Mill, "the birthplace of the industrial revolution in America," according to its website, with its remarkable recreated waterwheel, machine shop, and textile machine collections, has put its energies into a new education center designed to connect "our history of fine crafts to Rhode Island's burgeoning community of talented, professional craftspeople."²⁸ The museum, like many others in industrial cities with increasingly Hispanic populations, populations with no historic connection to the city, has also looked for ways to reach out to its neighborhood. Samuel Slater, after all, was an illegal immigrant, moving to the United States for work. And the museum has played up the environmental story of waterwheels and power.

The Charles River Museum of Industry, in Waltham, Massachusetts, at the site of the first integrated textile mill in the United States, has likewise focused on enthusiasts. The museum is run completely by volunteers, hobbyists who are eager to share their love of machine tools, or watches, or old cars. The museum is part garage, part attic, part program space. It's as much about the enthusiasts who volunteer as it is about the history of the location or the collections. The new Computer History Museum in Mountain View, California, has also appealed to enthusiasts, though its new exhibits aim at a broader audience.

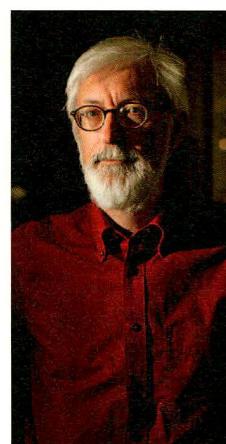
Almost every museum now looks ahead as much as it looks back. So, for example, the American Precision Museum has recently adopted a new strategic plan whose "guiding principle for the next five years is to blend old and new to tell how the history preserved in the museum and its collections is connected with precision manufacturing and the world of today." The American Precision Museum will be, according to the plan, not only "A world-class interpretation of a world-class collection of machine tools," but also "A place to see, learn, celebrate, mourn, and re-create the local story of precision manufacturing as part of an important national historical theme; and "A story we can tell, of problem-solving, ingenuity and solution-finding to the major challenges posed by precision manufacturing over the last two centuries and into the future."²⁹

The focus on inspiring kids, reaching new audiences, improving economies, and looking to the future is not a surprise in the US today – that's where the money is, after all – nor is it a bad thing. Museums trying to be useful is something to be encouraged, and these are areas where

they have something unique to add.³⁰ And this is really nothing new; it's returning to the roots of museums of science and technology.

And this is where the broader understanding of the history is important. Those roots are not tap roots; they spread out across the whole history of museums. The Peale Museum's interest in connecting old with new, the Newark Museum's community outreach, the Henry Ford Museum's apprenticeship programs, the Commercial Museum's service to business, the Metropolitan's attention to industrial art; all of these are part of the heritage of the museum of technology and industry. We swerved from that first with an emphasis on technology, then on labor, then on spectacle; we need to reintegrate the industrial museum into the community in a more sustainable way.

These are scary times for all museums, as funding is cut and the public finds new modes of entertainment and education, but that means they are exciting times as well. New technology, new techniques, new stories to tell to new audiences: these are challenges that will change the nature of museums. Museums need to continually prove their usefulness, and to do that, we must continually reinvent ourselves. That's something that museums of technology should be good at!



Prof. Steven Lubar

Born in Philadelphia, Pennsylvania, his BS is from the Massachusetts Institute of Technology, and his MA and PhD from the University of Chicago. After more than twenty years as curator of the history of technology at the Smithsonian's National Museum of American History, in 2004 he moved to Brown University, in Providence Rhode Island, where he is a professor in the department of American civilization and director of the John Nicholas Brown Center for Public Humanities and Cultural Heritage.

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