Prototype
February
The Lemelson Center
for the Study of Invention & Innovation
Smithsonian
National Museum of American History

Hip-Hop and African American Innovation

The creation of heroes has been important for American society. Heroes help define what it means to be an American, produce narratives about our collective historical past, stabilize our cultural surroundings, and represent the best of what we want our culture to be. The inventor is one of many cultural images that enable Americans to communicate about a common American origin, identity, and purpose. This has made inventors powerful and authoritative ambassadors of American technological creativity.

During Black History Month we often turn to African Americans of the late 19th and early 20th centuries to connect with this inventive heroism. Yet when we focus on earlier periods, we often overlook today's inventors and innovators, who are forging paths in areas well beyond traditional realms. In the field of music, for example, African Americans have been tremendously innovative with technology.

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Photo by Stuart Spivack

Notes from the Director

When we first began to document invention at the Lemelson Center, we were uncertain about what we might find. No one, to our knowledge, *really* had a handle on the level or sheer variety of inventive activity, much less on the details of what was actually going on. But once we started looking, inventors seemed to turn up everywhere--not only in large institutional laboratories but also in basements, garages, and kitchens around the country.

Beyond mere numbers, however, we discovered immense diversity within the inventing community, embracing men and women from all ethnic and racial backgrounds. To expand our knowledge of the full range of inventors, we have made it a priority to document and feature women and minority inventors from the past and present. Over the years, middle-school students who participated in our Innovative Lives program have met a number of these innovators, including engineer and educator Hildreth "Hal" Walker and MIT robotics pioneer James McLurkin. You will find out more about Patricia Bath, a prominent eye surgeon and inventor, below in this newsletter.

Our roster also includes Ellen Ochoa, the first Hispanic female astronaut, and inventor Akhil Madhani, from an immigrant family of Indian origin; he holds four patents for a heart-surgery robot. You can learn more about the lives and work of

these and other figures by visiting the Innovative Lives section of our website.

Adding to our desire to represent diversity not only in the invention community but also in educational methods, the Lemelson Center commissioned the Brewery Troupe to create a puppet play about African American inventor Lewis Howard Latimer, a draftsman best known for working with Thomas Edison and Alexander Graham Bell.

As a final note for Black History Month, let me recommend two books sponsored by the Lemelson Center: Bruce Sinclair, ed., *Technology and the African-American Experience: Needs and Opportunities for Study* (2004), and Carroll Pursell, ed., *A Hammer in Their Hands: A Documentary History of Technology and the African-American Experience* (2005). Published by MIT Press, these tandem volumes offer novel perspectives on African American invention from slavery to the 21st century.

Best regards until next month,
Art Molella
Jerome and Dorothy Lemelson Director

Have You Seen?

Lewis Howard Latimer (1848-1928) lived an extraordinary life. The son of former slaves, he served in the U.S. Navy during the Civil War, worked as an office boy in the Crosby and Gould patent law firm, taught himself mechanical drawing, and worked with some of the best-known inventors of his time, including Alexander Graham Bell, Thomas Edison, and Hiram Maxim. Learn more about Latimer in the Innovative Lives section of our website.

Trivia Challenge

In each edition of *Prototype,* we offer a question about an invention or inventor that you and your friends and family can try to answer. Sometimes the answer can be found on the Lemelson Center's website, where you can also learn a little more about the subject. Email your answer to us at prototype@si.edu along with your name and mailing address. Each month we'll select winners randomly to receive a small prize from the Center.

Congratulations to Betsy F. of Newington, Connecticut, and Ed D. of North Wales, Pennsylvania, who (among others) knew that in 1772 George Washington sought to use his name as a trademark for flour (kids, have some fun searching for "Trademark Treasure" on the U.S. Patent and Trademark Office's Kids' Pages). Betsy and Ed will each receive a year's subscription to *Smithsonian* magazine. And thank you to everyone who entered.

This month's question: Which of Lonnie Johnson's inventions was all wet?

From the Archives

Both my parents recently had cataract surgery. As I listened to them describe the process and how pleased they were with their "new vision," my mind wandered to Patricia Bath, an ophthalmologic surgeon, inventor, and activist for patients' rights. In 1981, Dr. Bath conceived of the laserphaco, an instrument to remove cataracts. She received U.S. patent no. 4,744,360 for an "Apparatus for ablating and removing cataract lenses" on May 17, 1988. Later patents include a laser apparatus for surgery of cataractous lenses (5,919,186) and a pulsed ultrasound method for fragmenting/emulsifying and removing cataractous lenses (6,083,192). The laserphaco has been used in Italy, Germany, and India, and is awaiting Food and Drug Administration approval in the United States.

As we celebrate Black History Month, I would be remiss in not highlighting Dr. Bath and her accomplishments. In 1975, she became the first African American woman surgeon at the UCLA Medical Center and the first woman faculty member at the UCLA Jules Stein Eye Institute. In 1976 she cofounded the American Institute for the Prevention of Blindness, an organization that aims to "protect, preserve, and restore the gift of sight" for all persons, regardless of race, gender, age, or income level. In 1983, she was named chair of the Ophthalmology Residency Training Program, which she also cofounded, at Charles Drew University/UCLA; she was the first woman in the country to hold such a position. She was elected to the Hunter College Hall of Fame in 1988 and named Howard University Pioneer in Academic Medicine in 1993. Dr. Bath retired from the UCLA Medical Center in 1993 and became the first woman to be elected to the center's honorary medical staff. In 2008 Dr. Bath was given the Visionary Award by the Women's International Film and Television Showcase for development of "new techniques, new concepts, and new ideas in an innovative approach to filmmaking, technical achievements, the business environment, or communication."

The Patricia Bath Innovative Lives Presentation and Interview Collection at the Archives Center, National Museum of American History, contains 8.5 hours of video footage of Dr. Bath's 2000 Innovative Lives presentation, during which she talked with middle-school students about her work in ophthalmology and in creating and patenting the laserphaco probe. The recordings also include interviews at her home and laboratory in Los Angeles, an interview with her daughter, Eraka Bath, and supplemental documentation assembled by Dr. Bath, including photocopies of articles, patents, biographical sketch material, and a selection of her publications and references related to lasers and surgery. You can learn more about Dr. Bath and her inventive life on our website.

--*Alison Oswald,* archivist

Inventive Ideas for Schools and Families

Ever wonder how a lightbulb works? Why not celebrate Thomas Edison's birthday (February 11, 1847) and Lewis Latimer's inventiveness (he earned patents for improvements to lightbulbs) by building a lightbulb of your own!

Download the experiment and make the world a brighter place!

Our Podcast--Prototype Online: Inventive Voices

Madam C.J. Walker (1867-1919), the daughter of former slaves, started life as a farm laborer and laundress but finished it as a pioneer of the modern African American hair care and cosmetics industry. In our February podcast, A'Lelia Bundles, Walker's great-great-granddaughter, offers highlights of Walker's life as an innovator, entrepreneur, philanthropist, and social activist and describes her own journey to come to terms with her family legacy. Bundles is the author of *On Her Own Ground: The Life and Times of Madam C.J. Walker* (2001). Tune in!

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Contact us at prototype@si.edu

General Smithsonian Visitor Information: 202-633-1000

or see more online:
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