

# LGM

LIBRARY OF CONGRESS MAGAZINE  
MAY/JUNE 2019

## LIBRARY 3.0

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Using Bugs  
To Save Books

Walt Whitman's  
Rarest 'Leaves'

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### Plus

Digital Rising

Art in Action

When Disaster Strikes



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*Shawn Miller*

# LCM

LIBRARY OF CONGRESS MAGAZINE

MAY / JUNE 2019  
VOL. 8 NO. 3

## Mission of the Library of Congress

The Library's mission is to engage, inspire and inform Congress and the American people with a universal and enduring source of knowledge and creativity.

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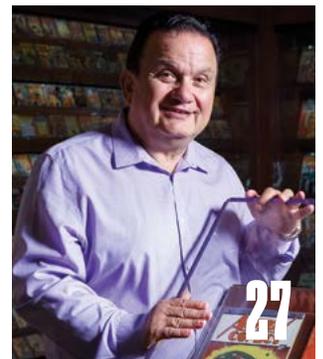
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## CONNECT ON

[loc.gov/connect](http://loc.gov/connect)





■ Participants in the Librarians in Residence program, along with their supervisors, gather on a terrace at the Library's Madison Building.  
*Shawn Miller*

## FOSTERING THE NEXT GENERATION

A new residency program gives recent graduates on-the-job opportunities at the Library.

For a person fresh out of library school trying to visualize a career path, hands-on experience at the world's largest library can have a powerful impact.

Last year, the Library of Congress launched a program designed to offer just that.

The new Librarians in Residence program gives early career librarians opportunities to enhance their professional skills through paid, on-the-job work that allows them to receive guidance from experienced members of the Library staff.

The Library benefits, too: The program enables staff members to

learn about the latest library-school pedagogy from young colleagues.

The program is open to students who earned or soon will complete their master's degree in library and information science from an American Library Association-accredited program.

The first class of residencies ran from June 2018 through December. Two members of the inaugural class had their residencies extended, and two others accepted permanent positions at the Library.

The five inaugural residents, selected from a large pool of applicants, enjoyed a wide range of experiences across Library divisions.

Kelsey Diemand, a graduate of the University of Maryland's College of Information Studies, had concentrated mainly on archives and academic libraries while in school.

As a librarian in residence at the Library of Congress, she worked in a completely new subject area: business reference. In the Science, Technology and Business Division,

■ Program participant  
Kelsey Diemand  
answers queries in a  
Library reading room.  
Shawn Miller



Diemand responded to reference inquiries, participated in science cross-training and blogged about the division's World War I-era government war-supply contracts.

Jon Sweitzer-Lamme, a graduate of the School of Information Sciences at the University of Illinois, took on multiple projects in the Preservation Directorate – microfilming and book-repair treatments, responding to inquiries about the preservation of personal collections and working on the newly acquired Geppi Collection of comic art.

“One of the most exciting things about being at the Library of Congress is that if we identify a big question that needs answering, we have the resources to make it happen,” he said.

–David A. Taylor is a program specialist in Library Services.

## MORE INFORMATION

Librarians in Residence program  
[go.usa.gov/xEpN2](http://go.usa.gov/xEpN2)

# HOW DO I ?



SHAWN MILLER

## APPLY FOR LIBRARY INTERNSHIPS AND FELLOWSHIPS

Lifelong learners in all stages of career growth now can find openings to become interns, fellows and volunteers in a variety of programs across the Library of Congress through a single webpage.

At the Library, opportunities exist to translate classroom education into real-world learning experiences. Career professionals design projects that engage learning and provide guidance in professional settings.

The Library invites you to explore its internships and fellowships throughout the year. While such opportunities are highly competitive, these tips will help you prepare a strong application:

- 1 • Visit the Internships and Fellowships portal to identify opportunities of interest.
- 2 • Follow all instructions carefully. Plan to complete your application a few days before the closing date at the latest.
- 3 • Carefully proofread all documents to make sure they are accurate and represent your qualifications and experiences. Doublecheck that you have all the required materials, then submit your application.
- 4 • Visit the Library's website and follow its social media to stay abreast of news.
- 5 • Prepare for the interview (if selected) by analyzing job descriptions and how they relate to your interests and experiences.

## MORE INFORMATION

Internships and Fellowships  
[loc.gov/ifp](http://loc.gov/ifp)



■ Gilbert Busch proofs a digitized braille music score at the National Library Service for the Blind and Physically Handicapped. *Shawn Miller*

## NEW TOOLS FOR CONNECTING

Innovative projects are making it easier for visually impaired patrons to read.

The National Library Service for the Blind and Physically Handicapped (NLS) has circulated books and magazines in braille and audio for nearly 90 years. From the start, it harnessed the latest technology to help people unable to use standard print materials continue to experience the joys of reading.

Today, that innovative spirit is driving over a dozen projects exploring new products and services.

“Rapid advancements in technology are giving us new tools to connect with current and future patrons in whatever way is most convenient for them,” NLS Director Karen Keninger says. “In some cases, that means providing the technology for people who don’t have it. But more and more, it means maximizing the compatibility of our service with the devices people already have.”

The projects underway are preparing NLS for a future centered around Braille and Audio Reading Download (BARD), a web-based service that provides access to special-format books, magazines and music scores.

BARD Mobile apps for iPhone and Android devices came later. BARD makes over 105,000 books available, and in fiscal 2018 patrons downloaded some 4 million braille and audio books and magazines.

NLS is exploring the use of a voice-user interface (VUI), similar to commercially available virtual assistants like Amazon’s Alexa or Apple’s Siri, to navigate the collection and play books on a smartphone or smart speaker. Unlike other methods used for internet distribution of books, VUI would stream audio to patrons’ devices.

One project close to becoming reality will provide refreshable braille displays, or eReaders, to patrons who can’t afford to buy them. Another explores solutions for patrons who can’t use BARD because they don’t have computers or internet access. Meanwhile, NLS continues to expand its collection by acquiring more commercial audiobooks – nearly 1,700 in fiscal 2018.

“The goal is to use technology to enhance the reading experience for our patrons – to make it easier and more efficient, to improve their quality of life,” Keninger says. “That’s what NLS is all about.”

—Mark Layman is a writer-editor at NLS.

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### MORE INFORMATION

NLS home page  
[loc.gov/nls/](http://loc.gov/nls/)

## A HELPING HAND IN TIMES OF CRISIS

The Library provides assistance in the wake of natural and manmade disasters.

In the aftermath of the fall of Saddam Hussein in 2003, a Library of Congress team entered Baghdad as the first outsiders to visit Iraq's national library. Their mission: Assess damage to collections and assist in restoring an important cultural asset.

That mission wasn't a first for the Library. The institution has much experience helping archives, museums and other libraries affected by natural and manmade disasters. Over the years, Library staff members also provided help following hurricanes in Puerto Rico and the Gulf Coast, wildfires in California, earthquakes in El Salvador, a tsunami in Japan, a flood in Hawaii and archive fires in Brazil, Russia and Egypt.

They do so as part of the Heritage Emergency National Task Force of the Federal Emergency Management Agency, or FEMA HENTF, and with nongovernmental partners such as the American Institute for Conservation National Heritage Responders and the American Library Association.

Their work sometimes includes providing on-the-ground advice to institutions whose collections have suffered significant damage or loss. Within the last year, Library staff traveled to California, Puerto Rico and Brazil to assess damage, make recommendations about proper storage facilities and provide



■ Left: Members of a Library of Congress team outside of the National Library of Iraq in Baghdad.

Below: Collection items damaged in a fire at the Institut d'Egypte in Cairo in 2011.

advice for salvaging materials damaged by water, fire and mold.

In crisis situations, Library staff members also work remotely to provide recommendations. At other times, they present workshops and use the Library website to provide advice about disaster preparedness.

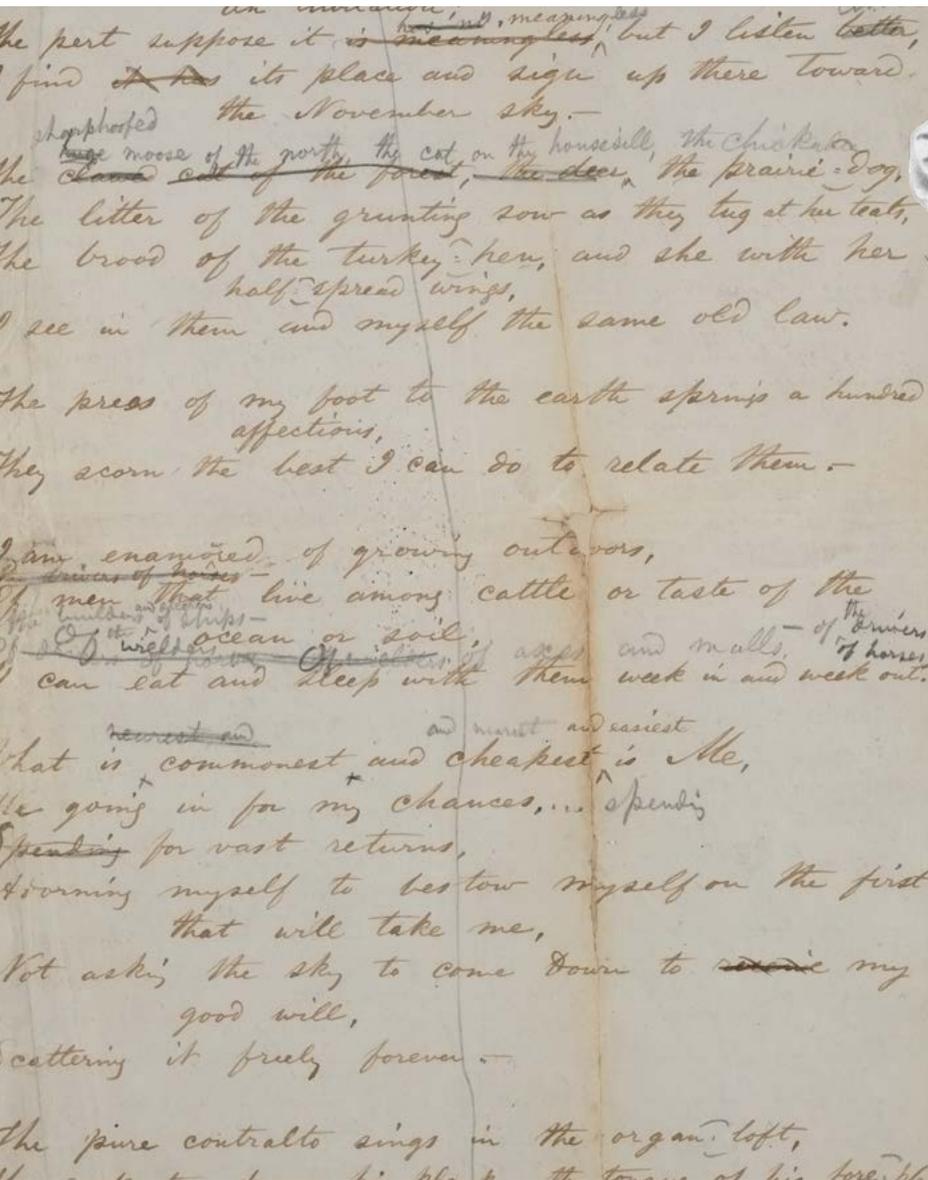
"To fulfill our mission to preserve library collections, our staff maintains exceptional capabilities to respond to emergencies," says Jacob Nadal, the Library's director for preservation. "I am proud that we can share our expertise through the Library's government partnerships and professional affiliations that help connect cultural institutions in times of need. We are fortunate to have FEMA HENTF when there is a federally declared disaster and are proud to be part of the interagency Cultural Heritage Coordinating Committee convened by the State Department, a valuable forum for international engagement on cultural heritage protection."

### MORE INFORMATION

Emergency-management resources  
[loc.gov/preservation/emergprep](http://loc.gov/preservation/emergprep)



# PAGE FROM THE PAST



The Library of Congress holds the most extensive collection of Whitman archival materials in the world – including one extraordinary manuscript page that provides a glimpse of how Whitman’s greatest work began.

The publication of the slim first edition of Whitman’s “Leaves of Grass” in 1855 marked the debut of a masterwork that changed the course of literary history. Refreshing and bold in theme and style, the book underwent many revisions over Whitman’s lifetime, becoming an ever-transforming kaleidoscope of poems.

Whitman produced varied editions of the work, ending with the final edition, or “deathbed edition,” in 1891-1892. What began as a book of 12 poems was by the end of his life a thick compendium of almost 400.

Library collections hold trial lines and a surviving draft page that document Whitman’s creative process in shaping the original content of that earliest edition.

This draft page reveals Whitman’s evolving work on what eventually became sections 14 and 15 of the poem “Song of Myself” – and an American literary landmark.

*What is commonest and cheapest and easiest is Me,  
Me going in for my chances, spending for vast returns,  
Adorning myself to bestow myself on the first that will take me,  
Not asking the sky to come down to my good will,  
Scattering it freely forever.*

■ This manuscript leaf shows revisions a young Walt Whitman (top) made for the earliest edition of “Leaves of Grass.” Manuscript Division, Prints and Photographs Division

## RARE ‘LEAVES’

The Library holds a rare draft manuscript page of the earliest edition of Whitman’s masterpiece.

This May, the literary world is staging festivals, conferences, readings and exhibitions across the country to celebrate the bicentennial of one of America’s great poets, Walt Whitman.

### MORE INFORMATION

Walt Whitman and ‘Leaves of Grass’ [loc.gov/exhibits/whitman/](http://loc.gov/exhibits/whitman/)

## CONNECTING CITIZENS TO GOVERNMENT

Authoritative reports on a wide range of public issues are now available online.

Last year brought a new chapter for the Library's Congressional Research Service (CRS). In March 2018, Congress passed the Consolidated Appropriations Act, which directed the librarian of Congress, in consultation with the CRS director, to make the service's reports directly available online to the public for the first time.

CRS reports provide Congress with authoritative, objective and nonpartisan research and analysis on the full range of issues before the national legislature. They are widely regarded among members of Congress and their staff as invaluable to their legislative work.

The Library's Office of the Chief Information Officer and representatives from almost every division of CRS engaged in a collaborative effort to implement the directive. Thanks to their efforts, the new site launched on Sept. 18, 2018. Users are greeted on the homepage by a search bar, and from there, they can browse or access CRS reports. The site also features an appropriations status table, which provides timely information on legislative activity related to the appropriations and budget process.

Today, more than 2,100 CRS reports are available on a wide range of subjects, from Iran sanctions to child nutrition programs to greenhouse gas emissions to monetary policy.

"In keeping with our desire to engage users with the Library and its materials," said Librarian of Congress Carla Hayden, "we are happy to see these reports put to the widest use possible."

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### MORE INFORMATION

CRS reports online  
[crsreports.congress.gov](https://crsreports.congress.gov)



SHAWN MILLER

# FAVORITE PLACE

## SCIENCE AND BUSINESS READING ROOM

The Library's Science and Business Reading Room comprises two rooms on the top floor of the 1938 John Adams Building. Originally called the Annex, the building is a Works Progress Administration product and a marvelous example of the U.S. Art Deco movement.

Visitors enter the Center Room from a lobby of light and dark rose Missouri marble with pedestals of Massachusetts green marble. The terrazzo floor is ringed with undulating patterns and chevrons and bordered with tiny mosaic squares. A copper and nickel grille around the door features an owl – a frequently appearing symbol.

Reference librarians are stationed here, in the former book service room. The reference collection encircles the room and continues in the neighboring Thomas Jefferson Reading Room, named for the murals, reflecting Jefferson's thoughts on freedom, labor, the living generation, education and democratic government. Ezra Winters' paintings depict characters of Jefferson's time, including Benjamin Franklin.

A lunette of Jefferson and Monticello looks down on the book service desk, and the walls bear inscriptions of Jefferson's writings: "Enlighten the people generally, and tyranny and oppression of the body and mind will vanish like evil spirits at the dawn of day."



SHAWN MILLER

## Digital strategy director Kate Zwaard helps the Library connect with its users.

### Describe your work at the Library.

As the director of digital strategy, I help the Library of Congress take the best advantage of technology to reach more people and connect more deeply. That work includes giving the Library a window into what is possible as technologies mature. Our digital strategy goals are to connect, throw open the treasure chest and invest in the future. I work to empower colleagues in their efforts to meet those goals and move to a more user-centered, digitally enabled Library. I also look holistically at the Library to identify technical solutions that can solve common frustrations and take advantage of opportunities. People like to work together, but sometimes it's not easy to see that your problem is the same as your neighbor's.

### How did you prepare for your position?

My first job at the Library was leading a team of awesome programmers building tools to acquire, manage and preserve the Library's digital collections. It was a good way to start, because it gave me in-depth familiarity with the Library's processes for digital collections and what is available in digital form. It also gave me a chance to partner closely with our amazing subject experts in the Library. From there, I was asked to lead the creation of the Labs team, which allowed me to broaden my focus to building coalitions in and outside of the Library to spur digital innovation and inspire use of our digital collections. Then, I was invited to do my current job, which includes developing and implementing our digital strategy.

I'm grateful for my technical experience, which grounds my practice in reality. I wrote software for Library digital collections transfers and worked on information technology system development at the Government Publishing Office. My academic background concentrated on statistics and data analysis, which helps when we're working on experimental methodology.

### What are some novel digital uses of the collections?

In our work, we look to demonstrate how digital collections can enable new kinds of research. With millions of items available online, there are amazing opportunities to tell interesting stories with our collections. For example, we hosted a Congressional



SHAWN MILLER

Data Challenge that invited the public to build applications using online legislative information. The winners, two high school students, created an app that lets you visualize U.S. treaties across time and country, providing researchers an easy-to-use entry point into historical congressional data.

### What projects are you most excited about?

Our new crowdsourcing initiative, By the People at [crowd.loc.gov](http://crowd.loc.gov), is really exciting. It invites volunteers to help expand accessibility of our materials by transcribing selected collections. We've seen tremendous excitement from teachers, researchers and lifelong learners – over 11,500 pages completed and 43,000 pages transcribed and counting since we launched six months ago. Not only are these volunteers interacting with collections in an engaging way, but they're enhancing access to the collections with every transcribed page.

I'm also really proud of our Innovator in Residence program. We're building our capacity to collaborate with digital innovators to explore new ways to use Library data and expand discovery of archival materials. But one of my favorite parts of the job is the staff here at the Library, including my incredible team. I feel very lucky to work with them.

## MORE INFORMATION

Crowdsourcing at the Library of Congress  
[crowd.loc.gov](http://crowd.loc.gov)

Legislative information online  
[congress.gov](http://congress.gov)



# DIGITAL RISING

**The Library increases focus on born-digital collecting and user interaction with content.**

■ Students examine documents as part of a Library crowdsourcing initiative to transcribe letters written to Abraham Lincoln. *Shawn Miller*

## BY WENDI A. MALONEY

What connects a legal gazette from the Maldives with a tutorial on making a Harry Potter-themed skirt? What ties together an African studies journal and a comic skewering figures from Western literature? The answer: All these things are part of the Library of Congress' fast-expanding trove of items acquired in digital format.

Over the past two decades, the Library has steadily expanded its digital repository; in recent years, the pace has accelerated. The Library now manages 15.2 petabytes of content, including born-digital acquisitions and digitized analog collections. As part of its mission to share its treasures, the Library is urging users to interact in novel ways with digital collections it offers online.

"A portion of the Library's universal collection is increasingly in digital form," said Mark Sweeney, principal deputy librarian of Congress. "The Library aims to make accessible to users, in accordance with known rights restrictions, digital materials that reflect the breadth and depth of

knowledge and creativity."

The Library also considers what other libraries, archives and museums provide, making accessible "material that most uniquely contributes to the larger body of online content," Sweeney added.

Digital acquisitions come into the Library's collections through different means. A project to acquire electronic serials through copyright deposit – the Library is home to the U.S. Copyright Office – resulted in fiscal 2018 being the first year the Library acquired more electronic-serial issues than print. Another copyright-deposit initiative is steadily increasing the number of digital newspaper issues in the collections, and hundreds of publishers are participating in a program in which the Library acquires electronic books in exchange for creating and sending cataloging data for the e-books to publishers before publication.

Yet another program has harvested more than 16,400 web archives – more than 1.8 petabytes of content – from across the

United States and overseas. Both the Maldives legal gazette and the Harry Potter-themed skirt tutorial, part of an archive documenting today's cultural life, were acquired through the web-archiving program. Other acquisitions include campaign websites, records of federal courts, an Iraq War web archive, a legal "blawgs" collection and more.

Themes range widely, but they are not random. Subject matter experts in the Library carefully select digital content to acquire based, in part, on content the Library already holds as well as that made available by other institutions.

"The Library's focus is to put the tools and pathways in place to empower our world-class staff to select items for the collection regardless of format," said Kate Zwaard, the Library's digital strategy director.

Zwaard's job includes identifying innovative ways to expand access to the Library's digital collections – both digital acquisitions and collections digitized by the Library.

Last October, the Library challenged volunteers to transcribe documents from a gem among its digitized collections – the papers of Abraham Lincoln – through a newly launched crowdsourcing website, By the People. After the volunteers type documents written in cursive, tag them with keywords to make them searchable and review them for accuracy, the documents are added to the Library's website alongside the originals. Volunteers also can transcribe the papers of other historical figures, such as Clara Barton and Rosa Parks.

The project was possible because the Library has made data about its collections publicly available through an application programming interface, or API. It enables users to engage with the collections in new and exciting ways. Users can, for example, write code that interacts with the API to make content from the Library's website accessible in another website. Or they might create a dataset from the API to build a visualization, or even perhaps write a query for data to feed a Twitter bot.

These efforts and others, Zwaard said, reflect the Library's ambition "to be more user-centered, to elevate digital, by inviting people to be part of the Library."

*Wendi A. Maloney is a writer-editor in the Office of Communications.*

## MORE INFORMATION

Digital collections at the Library of Congress  
[loc.gov/collections/](https://loc.gov/collections/)

# FROM CODE TO COLORS



The cover image of this month's LCM is an LC Labs experiment by Laura Wrubel titled "Library of Congress Colors."

The color palette featured on the cover is based on the Work Progress Administration Poster Collection from the Library's Prints and Photographs Division. Each six-swatch color bar represents a single poster. The colors generated for each collection are not necessarily the most frequent colors, but the center of a cluster of color values. Since the whole image is analyzed, color targets, borders and frames can affect the result. Colors are determined using k-means clustering, a popular data-mining method.

"I've had color on my mind as an entry point to collections," Wrubel wrote in a Signal blog post about her work. She created "Colors" to test this approach and was later inspired to turn the palettes generated from the application into a series of shoulder bags.

"Library of Congress Colors" is one of many LC Labs experiments developed as proof of concepts for imaginative entry into Library content. As articulated in the Library's digital strategy, these applications support emerging styles of research and engagement with the Library's digital content.

If you find yourself creatively inspired, you can follow a tutorial on the "Library of Colors" webpage to make your favorite Library collection into a color palette. For questions, or to share your palette with the Labs team, email [LC-Labs@loc.gov](mailto:LC-Labs@loc.gov).



## MORE INFORMATION

'Library of Congress Colors'  
[go.usa.gov/xmc5d](https://go.usa.gov/xmc5d)

Library of Congress Labs  
[labs.loc.gov](https://labs.loc.gov)



# LIBRARY

# 3.0

**Today's libraries are finding new ways to help and connect with their patrons.**

**BY WILLIAM W. RYAN**

"Sure, I'd love to help. As a librarian, connecting people to resources is my literal job." A recent request for assistance received this encouraging response from Megan Metcalf, a research librarian at the Library of Congress, that neatly characterizes the 21st century expectations that patrons bring to libraries today: that of being provided all kinds of resources – not just books. Though they still want plenty of those, too.



■ Above: ALA partnered with Google to offer workshops for job seekers and small businesses. American Library Association

Right: Children participate in a Makers 2 Mentors session at the public library in Homer, Alaska. Homer Public Library

There are more than 120,000 school, public, academic, government and special libraries across the nation. The services they provide are morphing and multiplying at the speed of technology, presenting extraordinary opportunities and challenges.

“Today’s libraries – whether they’re in a school, university, business or on Main Street – are not just about what we have for people, but what we do for and with people,” American Library Association (ALA) President Loida Garcia-Febo says. “Libraries equal strong communities. Libraries are hubs of lifelong learning. Anyone can come in, and the resources are available to learn to read a book, do research, write a resume, code a computer program, create a business plan, experiment with new technologies and more.”

By providing access to all kinds of unique resources, from 3D printers to video studios to forklift simulators, libraries offer the chance for people to satisfy their curiosity, learn new skills and achieve goals. In the

non-technological realm, libraries these days lend everything from animal skeletons to seeds, tools, cookware, statues and sports equipment – Yale’s library even will lend weary students inflatable mattresses.

Still, technology is propelling the most significant changes in library services. As advances in broadband give rise to “Web 3.0,” libraries have moved aggressively to keep up, to become 3.0 as well. Today, almost all of the nation’s 16,568 public libraries provide free Wi-Fi and access to high-speed internet – along with training in their use – so that patrons without computers or internet access can get the full benefit of the modern web, with its hunger for bandwidth and speed.

The need for these services is increasingly urgent, as many key elements of modern life can only be conducted online. For those left behind, the “digital divide” risks becoming a chasm: Some 28 million U.S. households still lack broadband internet service at home.



# COPYRIGHT INFO, SOURCED LOCALLY

The U.S. Copyright Office is developing an outreach program that will enable libraries to serve as local resources for information about copyright and the copyright process.

Designed by the Copyright Office and led by its staff, the Copyright Information Station Program (working title) will increase public access to copyright resources and awareness of the Copyright Office through a network of libraries nationally.

The office will train library staff to become Copyright Information Station specialists who will help guide the public to the office's resources and answer questions about certain copyright matters and office activities. Copyright Information Stations also will help libraries by supplementing libraries' current collections and resources with the high-quality, current and accessible copyright information the public requires.

The program is being developed with and piloted at the Loudoun County Public Library (Rust Library) and the Alexandria Library in Virginia and the Founders Library of Howard University in Washington, D.C.

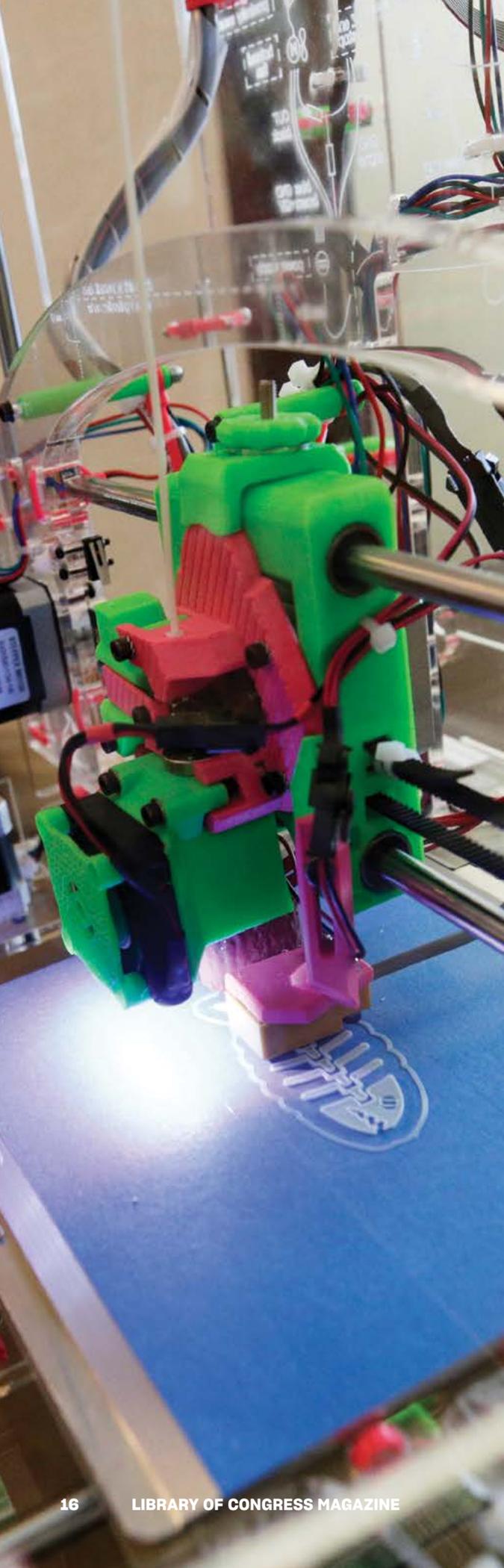
The Copyright Office, in conjunction with the Library's Office of Communications, currently is gathering information in phase one of the pilot program. The office is planning a limited rollout of the pilot program in the spring, after which it will assess data, develop a program website and announce the phase two call for applications.

*—Alison Hall is a writer in the U.S. Copyright Office.*

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## MORE INFORMATION

U.S. Copyright Office  
[copyright.gov](http://copyright.gov)



■ **Technology, such as this 3D printer, is propelling the most significant changes in library services.** *Shawn Miller*

Libraries also use the internet to bridge the physical divide, helping people access them via the internet rather than in person – a benefit, for example, to the denizens of rural Alaska for whom a trip to the library might constitute a major undertaking. The Homer (Alaska) Public Library serves the needs of its 5,500-person rural community along with 7,000 neighbors who live more remotely, including those in roadless communities across Kachemak Bay, says youth services librarian Claudia Haines.

“In addition to a well-loved, traditional collection of books, DVDs and more for kids, teens and adults,” Haines says, “the library provides access to the Alaska Digital Library, an e-book and digital audiobook collection supported by a consortium of Alaska libraries, and a plethora of databases including Mango Languages, Lynda.com and Tutor.com.”

Similarly, the Library of Congress alone has placed on its website tens of millions of digitized photos, newspaper pages, manuscripts and born-digital items. Patrons also can engage remotely through the “Ask a Librarian” service that the Library of Congress and many other libraries provide.

Librarians also overcome distance in real-time through virtual research orientations and consultations. Metcalf recently met virtually with a class at New York University, answering questions about LGBTQ+ collections and programming at the Library. The Researcher and Reference Services division is gearing up to expand the virtual services it can offer.

“It’s exciting to be a part of the shifting nature of reference work,” Metcalf says. “I can reach many more people with a webcam and a headset than I can sitting behind a desk. The opportunity to make an impact with these services is huge.”

Similarly, the University of Oklahoma Libraries has created the Oklahoma Virtual Academic Laboratory, which makes virtual reality technology available to students. This allows classes to incorporate 3D technology into their curricula and students to access third-party 3D material from models of molecules to virtual tours of buildings that exist only as designs.

Time, with its ravages, is a longstanding adversary of the librarian, and as much a motivation for digitization projects as overcoming distance. Some libraries extend their preservation efforts to personal materials – family videos, audio recordings, photographs, documents and slides – by allowing them to be digitized on-site. The recently built, state-of-the-art Libbie Mill Public Library in Henrico County, Virginia, maintains a Digital Media Lab open to the public.

“The DML includes various equipment, software and resources for patrons of all ages to use for free – podcasting kits, D-SLR camera, Adobe Creative Suite, scanners, green screen, card reader, VHS transfer station, etc.,” says Libbie Mill librarian Dee Demetriadis.

“Patrons can also reserve the Digital Media Lab if they wish to record a project privately using our equipment.”

Venturing further into teaching about technology, the ALA has partnered with Google on Ready to Code, a project that prepares librarians to teach computer coding to young people. As part of that initiative, the Homer library re-envisioned how it supports literacy and learning for youth to better prepare them for the workforce of the future.

“We asked ourselves, what does literacy look like in the digital age and how can we help youth be prepared for the workforce of the future?” Haines says. “As a media mentor, I was already talking to families about high-quality digital media that supports literacy and learning, but we wanted to look deeper.”

So, Haines designed learning opportunities for youth, preschool to high school, that went beyond finding and evaluating digital information to creating it. She specifically focused on computational thinking skills that enable youth to be successful problem-solvers, creative thinkers, effective communicators and lifelong learners in a connected world.

The ALA and Google partnership yielded another program as well: the Grow with Google initiative, a series of free, one-day workshops at libraries across the nation for job seekers, small businesses and library staff. At these events, experts give training in online marketing, optimizing websites for search engines and using spreadsheets.

About three-quarters of America’s public libraries help patrons with job applications and interviewing skills. Many offer high school or career certifications and career and technical education programs. Entrepreneurs look to libraries for help developing business plans, doing market research or using various technologies. One Connecticut entrepreneur used the 3D printer at the Westport Library to create a prototype cell phone attachment that prevents users from texting while driving.

But 3D printing isn’t just helping business owners. A 5-year-old girl from Texas got a new prosthetic hand courtesy of the Harris County Public Library. That hand cost about \$100 as compared to the \$5,000 or so that it would have cost otherwise.

While technology enables library access to be remote, in their local communities, libraries are anything but. Libraries are often windows into local traditions, events and regional development and change. They offer in-person events, talks and performances for local audiences and a multitude of other services that nurture the well-being of their communities.

“In this way,” Garcia-Febo says, “today’s libraries are the same great equalizer in our democracy that we always have been and always will be.”

# A NEW FRAME FOR METADATA

For more than six years, staff members in the Network Development and MARC Standards Office at the Library of Congress have been developing and testing a new way to express the Library’s information about its collections.

The initiative, called BIBFRAME (short for bibliographic framework), aims to improve the way librarians describe their resources by reducing manual data entry and using data from curated lists of information from trusted sites. BIBFRAME consists of a new model and format that replaces MARC (machine-readable cataloging), which dates to the 1960s.

The new data structure will bring libraries’ metadata about their collections to the web, allowing much better linkages between and among resources, at the library, in museums, and at other cultural heritage institutions.

The Library has been partnering with LD4, a Mellon Foundation-funded group led by Stanford that is interested in shaping the future of library metadata.

The challenge is to implement such a big change while the cataloging rules themselves are in flux, but the rules probably will also evolve as BIBFRAME takes hold as well. Printed catalog cards are out; linking to authoritative sources is in. The Library is also (not coincidentally) hosting a large number of those authoritative lists for cataloging. That site will also host the BIBFRAME catalog descriptions in the coming months.

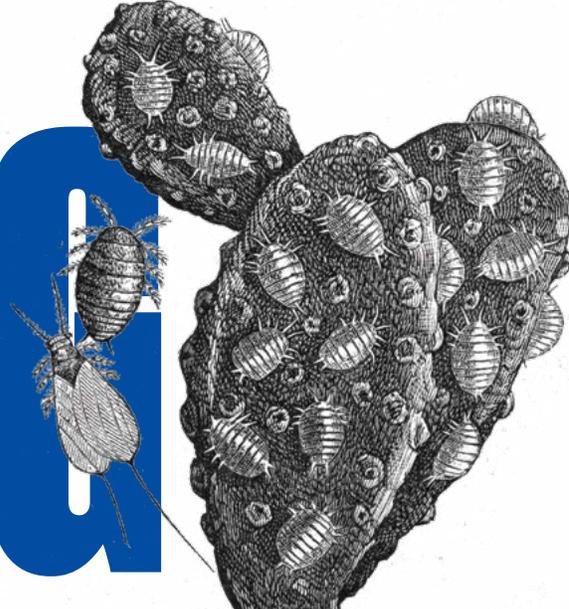
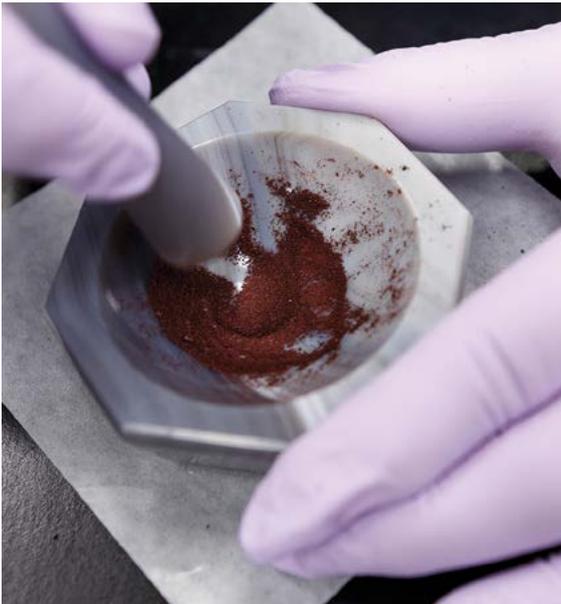
*—Nate Trail is a digital projects coordinator in the Network Development and MARC Standards Office.*

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## MORE INFORMATION

Linked Data Service  
[id.loc.gov](http://id.loc.gov)

■ Top: A jar of dried cochineals, an insect once used to make rich shades of red. The insect bodies, ground into a fine powder (below). *Shawn Miller*



# BUG STORY

Library preservationists use many tools – even tiny insects – to better understand and protect collections.

**BY NEELY TUCKER**



■ Vintage cochineal-dyed silk swatches in “The Practical Dyer,” by Cornelius Molony, published in Boston in 1833. Shawn Miller

Cindy Connelly Ryan is working at a lab bench deep inside the Library. A preservation science specialist, she’s part of a team using state-of-the-art science – chemical analysis, multispectral imaging, X-ray fluorescence – to understand the long-lost inks, pigments and dyes that gave the pre-modern world its dazzling color palettes.

It’s a realm as exotic as it is mysterious. For centuries, tradesmen scoured the planet for anything that could be used to produce vibrant colors: bug guts, squid bones, shredded wood, hardened tree sap, walnut rinds, lye, tannic acid, iron sulfate, wine and, um, urine. Most of their recipes have been lost to time, and the ones that do survive are often wildly inaccurate.

But re-creating these colors is critical. It’s part of a burgeoning field of research that seeks to understand both the history of these long-ago tradesmen and the future of the works they helped create. Historians want to re-create them to better understand worlds gone by. If a particular color used in an Italian medieval manuscript can be traced to India, for example, it helps document trade routes of the time. Preservationists, meanwhile, need to know the chemical composition of items in their care. Identifying colorants or substrates (linen, canvas, paper, cloth, etc.) with particular sensitivity to light, say, may inform decisions about storage, exhibitions or conservation treatments.

“If you’re looking at something from the 15th century, there are going to be materials in that that nobody has used in 300 years, and you can’t just go online and order them,” Ryan says. “The detective work comes in looking at things that you can’t buy, that were never produced commercially, things that have long since been replaced by less poisonous, less expensive or more chemically stable materials.”

Which is why, in a lab in the Library’s Preservation Research and Testing Division, she takes out a mortar and pestle and begins grinding up ... bugs. Specifically, the dried bodies of cochineals (ko-shih-



■ Far left and right: The red, green and orange hues in “Apocalypsis S. Joannis” remain vibrant more than 500 years after the volume was published. *Rare Book and Special Collections Division*



■ 1. Cindy Connelly Ryan filters residues from the extracted dye solution. 2. She adds alum so that it will bind to the painted surface. 3. Ryan measures the solution.

ALL PHOTOS BY SHAWN MILLER

NEALS), a cactus-loving insect that was once the *crème de la crème* of colorants for its deep, glorious shades of red. In pre-Columbian times, Mayan and Aztec societies used the carminic acid found in cochineals to dye rich fabrics. Spanish explorers were so smitten with the color that they shipped it back to Europe, where its scarlet shades created a sensation.

Today, Ryan shakes a small handful of dried cochineal (obtained from a specialty shop in New York at about \$20 an ounce) into her mortar. They are tiny brown things and, it has to be said, not particularly impressive. “But as I grind them down, it turns red, right?” she says, offering a peek.

After a few minutes, the insects are reduced to a pinkish red powder. She pours this into a glass beaker, adds lye

from a graduated cylinder and ... presto.

“Look at that amazing purple,” she says, painting out a small square sample onto a swatch card.

This color sample takes its place among hundreds of others that she and her colleagues are making. These help match methods, paints and inks that were used to create priceless items in the Library’s collections.

In other parts of the lab, preservationists use other, technologically sophisticated tools. Multispectral imaging, for example, can reveal markings on pages – watermarks, or earlier writings that have been scraped off or written over – that are invisible to the naked eye. X-ray fluorescence tests send a high-energy, X-ray beam through a pin-dot-sized sample of a document



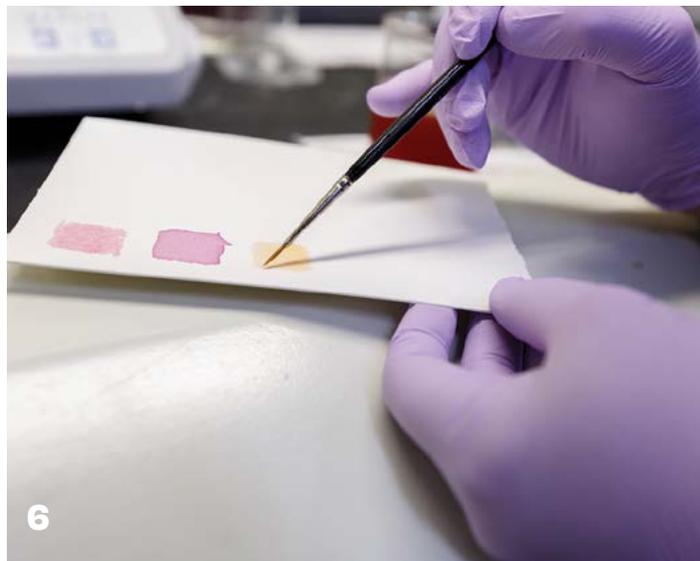
4

■ 4. Four cochineal-based inks, made with recipes from the papers of Samuel Wetherill of Philadelphia, circa 1780s. 5. Ryan works with corrosive (lye), pungent (stale urine) and other hazardous materials beneath a laboratory fume hood. 6. The colors in vials being painted out.

ALL PHOTOS BY SHAWN MILLER



5



6



or artifact, revealing the chemical signatures of individual ingredients.

Stephanie Stillo, a curator in the Rare Book and Special Collections Division, is working with Ryan's group to investigate a 1470s block book, "Apocalypsis S. Joannis" (the "Apocalypse of St. John"). The greens and reds and orange in the illustrations are shockingly vibrant more than 500 years after someone hand colored them.

But block books – popular just after Gutenberg invented the printing press – are publishing enigmas. Today, few copies exist. Scholars know they were printed in Germany and the Low Countries. They know reverse-image wood-block carvings were used to imprint the images on rag paper. But that's it.

The laboratory's research into what the book is made of, however, is unlocking clues that have been hidden for centuries. Chemical analysis has revealed the brilliant orange is from a red lead. The deep green is copper-based. The light maroon is from a brazilwood dye, made from a tree in southeastern India, not Brazil itself (those would come later). And multispectral imaging has revealed that the black ink is made from iron gall, not the more common carbon black.

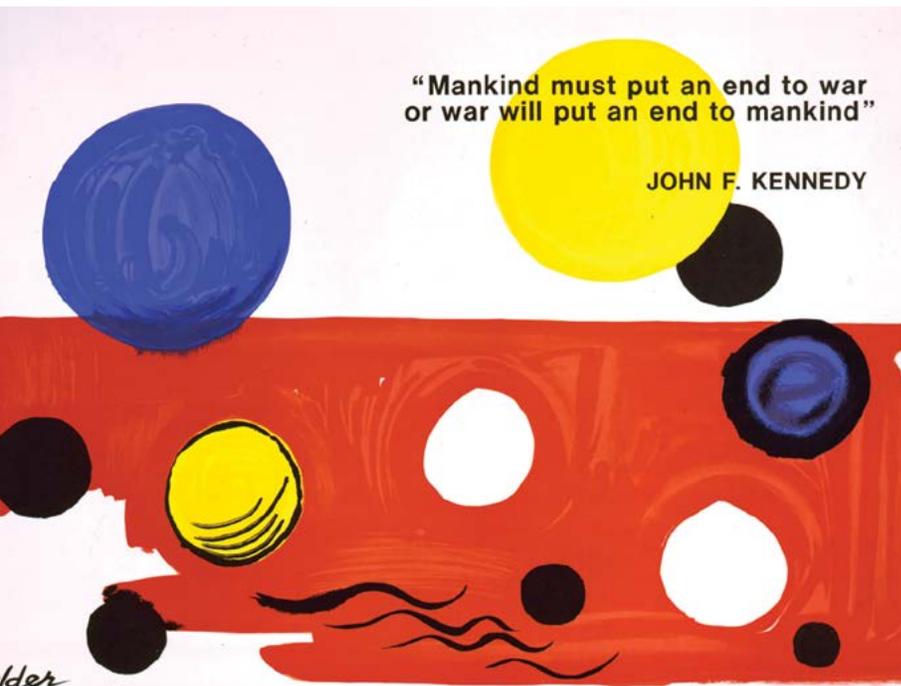
"Knowing what a book is composed of helps us know more about production sites and methods," Stillo says. "If they're using this certain kind of ink, if they're using this certain kind of pigment, then we can make some assumptions about where these were produced and who produced them."



# CURATOR'S PICKS

## ART IN ACTION

Co-curators Katherine Blood and Martha Kennedy of the Prints and Photographs Division choose favorite pieces from this new exhibition.



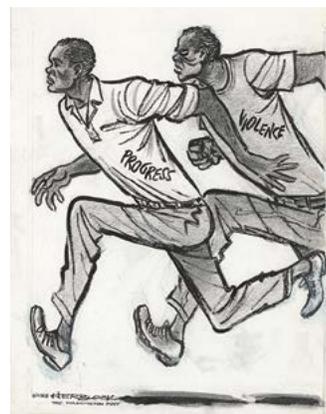
### COLD WAR CALDER

In his colorful, abstract lithograph, sculptor Alexander Calder borrowed words from Kennedy's September 1961 United Nations speech in order to garner support for the National Committee for a Sane Nuclear Policy (SANE). Calder served as SANE's Chairman of Artists beginning in 1965. ©2018 Calder Foundation, New York/Artists Rights Society (ARS), New York



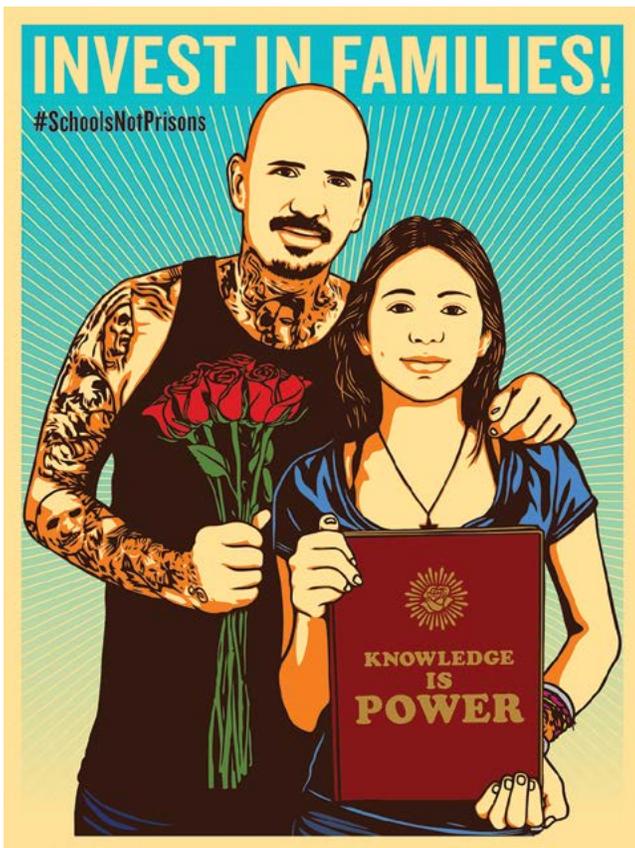
### ADMONISHING THE SUPERPOWERS

President Ronald Reagan initiated strategic nuclear arms reduction talks between the Soviet Union and the United States. Herb Block envisions his signature character, Mr. Atom, at the table reminding both nations of his terrifying capacity for destroying the whole world. Published in the Washington Post, Feb. 8, 1983. Herbert L. Block Collection. ©Herb Block Foundation



### VISUAL METAPHOR

The tragic assassination of Martin Luther King Jr. on April 4, 1968, unleashed violence, destruction and even loss of life in many cities, including Washington, D.C. Herblock signals hope for gains in civil rights by showing the figure of "Progress" pulling ahead of "Violence." Published in the Washington Post, May 28, 1968. Herbert L. Block Collection. ©Herb Block Foundation



## KNOWLEDGE IS POWER

Bearing the hashtag “Schools Not Prisons,” the 2017 inkjet poster “Invest in Families” by Ernesto Yerena Montejano promotes family and community safety through health, education and support for young people. Yerena’s born-digital poster design was also made available as a free online download. ©Ernesto Yerena. Courtesy of Amplifier



## CIVIL RIGHTS MEMORIAL

This poignant visual eulogy (“Memento,” 1997 lithograph) by Kerry James Marshall honors civil rights movement champions and martyrs including Martin Luther King Jr., John F. Kennedy, Medgar Evers, Malcolm X, four young girls killed in the 1963 Birmingham church bombing, civil rights workers and Black Panther members. ©Kerry James Marshall. Courtesy of the artist and Jack Shainman Gallery, New York

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## MORE INFORMATION

Art in Action: Herblock and Fellow Artists Respond to Their Times  
[go.usa.gov/xEp5G](https://go.usa.gov/xEp5G)

# AROUND THE LIBRARY



1.



2.



3.



4.



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6.

**1.** “Queer Eye” cast members (from left) Tan France, Antoni Porowski, Bobby Berk and Jonathan Van Ness take photos with Rep. Derek Kilmer after an appearance at the Library on April 3.

**2.** Librarian of Congress Carla Hayden and Lonnie Bunch, director of the National Museum of African American History and Culture, unveil a previously unknown portrait of Harriet Tubman on March 25 at the museum.

**3.** Librarian of Congress Carla Hayden presents the Gershwin Prize for Popular Song to Gloria and Emilio Estefan at Constitution Hall on March 13.

**4.** The Veterans History Project hosts a special reunion of World War II veteran Code Girls on March 22 in the Jefferson Building.

**5.** Aisha Karefa-Smart, the niece of author James Baldwin, participates in a discussion on “Little Man, Little Man,” the only known children’s book written by Baldwin.

**6.** Annie Proulx, author of “Brokeback Mountain” and winner of the Library of Congress Prize for American Fiction, talks with science writer Peter Brannen and moderator Marie Arana (right) on March 20 in the Coolidge Auditorium.

ALL PHOTOS BY SHAWN MILLER

## Hayden Names Diamond, Jay-Z Recordings to Registry

The classic radio western “Gunsmoke”; Ritchie Valens’ groundbreaking 1958 “La Bamba”; Sam & Dave’s 1967 hit single “Soul Man”; the revolutionary 1968 Broadway musical “Hair”; and Neil Diamond’s 1969 “Sweet Caroline” were added to the Library of Congress National Recording Registry in March.

Librarian of Congress Carla Hayden named those and 20 other recordings as aural treasures worthy of preservation because of their cultural, historic and aesthetic importance to the nation’s recorded sound heritage.

Other recordings added included hip-hop mogul Jay-Z’s 2001 album “The Blueprint”; the earliest-known recordings of Yiddish songs; Cab Calloway’s signature song, “Minnie the Moocher”; and Robert F. Kennedy’s extemporaneous speech immediately following the assassination of Martin Luther King Jr. in 1968.

The additions bring the total number of titles on the registry to 525.

**MORE: [loc.gov/item/prn-19-018](https://loc.gov/item/prn-19-018)**

## New Exhibition Examines Socially Engaged Art

A new Library exhibition, “Art in Action: Herblock and Fellow Artists Respond to Their Times” (see page 22), pairs original drawings by editorial cartoonist Herblock with historical and contemporary artists’ prints, drawings and posters that respond to major issues from the 17th century to the present day.

As a political cartoonist for The Washington Post and other newspapers, Herbert L. Block – who won three Pulitzer Prizes and became known simply as “Herblock” – devoted his 72-year career to creating social commentary through his drawings. The Library houses most of Herblock’s lifework.

The exhibition, which runs through Aug. 17, features works by Herblock and artists such as Jacques Callot, Leopoldo Méndez, Francisco de Goya, Alexander Calder, Enrique Chagoya, Shepard Fairey, Kerry James Marshall, Juan Fuentes, Favianna Rodríguez and Helen Zughaib, among others.

**MORE: [loc.gov/item/prn-19-013](https://loc.gov/item/prn-19-013)**

## Library Teams Up to Support Filmmakers with New Award

The Library of Congress joined with The Better Angels Society and the Crimson Lion/Lavine Family Foundation recently to announce a new annual award that recognizes exemplary accomplishment in historical documentaries.

The Library of Congress Lavine/Ken Burns Prize for Film will be bestowed each year on a filmmaker whose documentary uses original research and compelling narrative to tell stories that touch on some aspect of American history. The submission deadline for the inaugural prize is June 1.

The prize will be presented in the fall at a gala at the Library of Congress. The winner also will receive a \$200,000 finishing grant to help with the final production of the film.

“History is of course fraught with complexity and is often divisive,” Burns said. “But somehow by confronting this history together, and the many stories that make it up, we become closer.”

**MORE: [loc.gov/item/prn-19-023](https://loc.gov/item/prn-19-023)**

## Library Receives Grant for Book Preservation

The Library recently received a \$540,000 grant from the Andrew W. Mellon Foundation to evaluate the physical health of the national collection of books in American research libraries and to guide their archive retention and preservation decisions.

There currently is no objective formula to assess the condition of millions of books in the custody of the nation’s libraries. This study will help inform best practices and provide a baseline for libraries to analyze their print collections based on established scientific guidelines.

This is the first effort of its kind to lay the scientific groundwork for development of a national effort to preserve the corpus of books held in American libraries. The five participating institutions are Arizona State University, Cornell University, University of Colorado at Boulder, University of Miami and University of Washington.

**MORE: [loc.gov/item/prn-19-011](https://loc.gov/item/prn-19-011)**

# SHOP



**Library of Congress Athletic T-shirt**  
 Product #213030111-114  
 Price: \$20

Who said athletes don't like to read? Show your devotion to libraries and reading with this heavyweight cotton T-shirt.



**L is for Library Tote**  
 Product #21301020  
 Price: \$20

Display your love for your local library by carrying this canvas tote with a look reminiscent of classic 1960s alphabet flashcards.



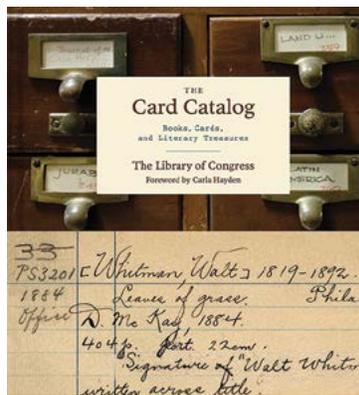
**'Disgusted' Bookmark**  
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 Price: \$10.95

"Disgusted with life, she retired to the society of books" bookmark, based on a Rosina Emmet Sherwood drawing from 1888.



**Librarian Pin**  
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Wear this pin to show that you know everything – or at least how to find it! Gold-tone finish.



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This Library of Congress publication pays tribute to books via more than 200 images of original catalog cards and first-edition book covers.



**Shhh Library Card Mug**  
 Product #21505440  
 Price: \$15

This fun coffee mug is double-sided with a library card date-due theme. The white ceramic mug is dishwasher and microwave safe.

Order online: [loc.gov/shop](http://loc.gov/shop) Order by phone: 888.682.3557

## AN ICONIC MOUSE IN THE HOUSE

A donation adds original material on Captain America and Mickey Mouse to the Library's collections.

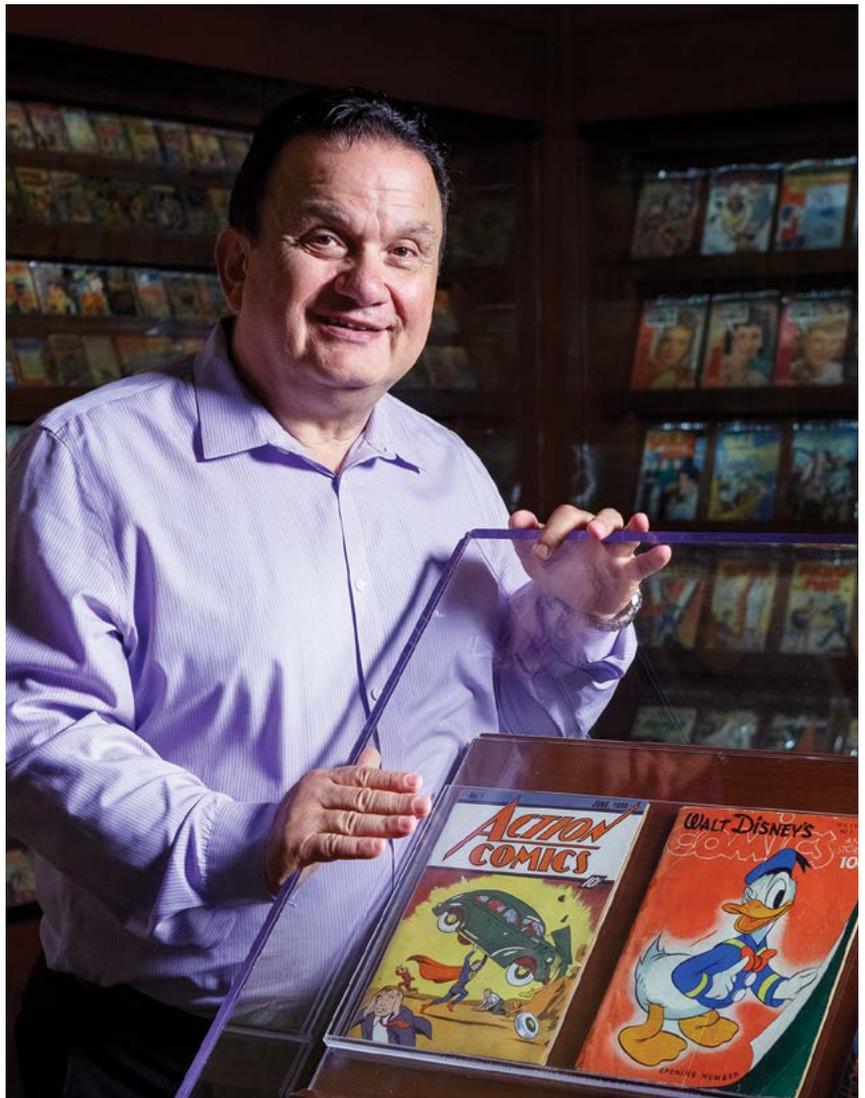
The nation's library often benefits from the generosity of collectors who passionately pursue historical materials, then choose to share their prized acquisitions with the American public via donations to the Library of Congress.

Such was the case last year when Baltimore entrepreneur Stephen A. Geppi donated his 3,000-plus-item collection of comic books and related material to the Library – a collection that included the earliest-known depictions of Mickey Mouse, Captain America, the G.I. Joe action figure and a host of other iconic American popular-culture characters.

The collection's greatest treasure arguably is a set of original pencil drawings, executed in 1928, of Mickey Mouse – the first-ever portrayal of the big-eared icon. The drawings, rendered as a cartoon storyboard titled "Plane Crazy," were inspired by Charles Lindbergh's solo trans-Atlantic flight the previous year.

Other highlights include Joe Simon's concept drawing for the superhero Captain America, created in 1940 in reaction to World War II; the prototype for the first G.I. Joe action figure, developed in 1964 during the Vietnam War; Beatles memorabilia; a collection of flicker rings popularizing comic book characters and political figures such as Martin Luther King Jr.; and Richard Outcault's printing blocks for The Yellow Kid.

Mickey and Captain America will have good company at the Library: The institution holds more than 140,000 issues of about 13,000 comic book titles, dating back to the 1930s. The collection includes some of history's most important comics: the first comic book sold on newsstands; the first series featuring Batman and other iconic characters; All Star Comics No. 8, which introduced Wonder Woman; and Amazing Fantasy No. 15, which tells the origin story of Spider-Man.



Geppi, the founder, owner and CEO of the world's largest distributor of English-language comics, built his personal collection over 45 years. But, he says, one of the pleasures of collecting is allowing like-minded folks to take part, too.

"It's no fun to sit alone in a corner with your collection," Geppi says. "I like to share it."

Comic fans everywhere are glad he did.

—David A. Taylor

■ Stephen A. Geppi donated a trove of rare comics and related material to the Library last year. *Shawn Miller*

### MORE INFORMATION

Make a gift  
[loc.gov/donate](https://loc.gov/donate)

# LAST WORD

## CARLA HAYDEN

Librarians, it is said, are the original search engines. Today, in the age of digital search engines, libraries and librarians are finding many new ways to serve the public, to bridge technological and literacy gaps, to expand access to resources and to maximize the usefulness of their holdings to patrons.

This is true of the Library of Congress, too.

Over the past 200-plus years, the Library's collections have grown from the 6,000 volumes purchased from Thomas Jefferson to a global gathering of nearly 170 million items in all formats, documenting centuries of human creativity and achievement. The collections hold, for example, Jefferson's original draft of the Declaration of Independence, Lincoln's handwritten copies of the Gettysburg Address, the papers of Rosa Parks and, increasingly, born-digital materials.

My goal as librarian of Congress is to open that great treasure chest as wide as possible to as many people as possible. To accomplish that, the Library recently implemented a new digital strategy that decisively shifts the institution to a more user-centered, data-driven and digitally enabled approach, one that also embraces a culture of learning and innovation.

Over the past two decades, the Library steadily expanded its digital repository. In recent years, the pace has accelerated: The Library now manages 15.2 petabytes of content, including born-digital acquisitions and digitized analog collections. More than 7 million new items were made available online in the past year alone, among them the papers of Benjamin Franklin, Susan B. Anthony and Presidents Theodore Roosevelt and Woodrow Wilson. Our new crowdsourcing project, *By the People*, allows the public to help make digital collections more accessible by transcribing and creating keywords for, say, letters written to Abraham Lincoln or the baseball scouting reports of Branch Rickey – work that makes those documents searchable online for the first time. In this way, we enable our patrons to help bring new history to light for all of us.

We also want to connect more deeply with those who visit the Library in person, to make them lifelong users of our resources. The Library is undertaking an ambitious



SHAWN MILLER

plan to enhance the experience of those who visit its Capitol Hill campus – nearly 2 million of them in the last fiscal year alone. We plan to revitalize exhibition spaces, with a treasures gallery that highlights the best of our collections; create an orientation space that showcases Jefferson's original library and explains Library resources and history; and construct an "oculus" that allows visitors to gaze up into our magnificent Main Reading Room – for more than a century, the heart of this institution – while the researchers inside work on, undisturbed.

Our plan also calls for a new center for learners of all ages to promote creativity, provide more civics and history education programming and foster new generations of researchers and library users. We want visitors to leave with a greater knowledge of our country's history and culture, a better understanding of the Library and its resources and the motivation to keep learning throughout their lives.

The Library of Congress is the nation's library – and your library. With every visitor, every online user, we want to build a relationship that lasts a lifetime.

*–Carla Hayden is the 14th librarian of Congress.*



■ A short, stately walkway leads to the west entrance of the Main Reading Room.  
*Shawn Miller*

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