

Creating a Fully Accessible Digital Helen Keller Archive

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The Helen Keller Archive at the American Foundation for the Blind (AFB, n.d.-a) is the largest extant collection of materials by and about Helen Keller (1880–1968). Currently on loan to the American Printing House for the Blind in Louisville, Kentucky, over eighty thousand items chronicle her life and the world she lived in, from the late nineteenth century to the middle of the twentieth. This chapter traces the journey that was taken to bring this physical collection to a global audience via digital technology and, most importantly, how over 186,000 digital images and thousands of pieces of metadata spanning Keller's life and beyond were made accessible to the blind, deaf, deafblind, and hard of hearing communities whose history they relate.¹

As the archivist at AFB, I took care of the archival collections from 2002 until 2021. During that time, I witnessed growing attention to disability history and a recognition that people with disabilities must be able to access their own stories and shape and narrate their own past. What better place to start than by creating a fully accessible digital Helen Keller Archive?

Keller was among the most recognizable people with disabilities in the twentieth century. She not only used her extraordinary popularity as an advocate for disabled people but was also a feminist, social activist, and public intellectual. Keller's involvement in key cultural, social, and political events of the nineteenth and twentieth centuries was unparalleled. She was both a product of her environment and a driving force upon it, paving the way for a more inclusive society. Her advocacy resulted in legislation that benefited blind students and veterans and had profound ramifications for society as a whole.

Before Accessible Archives

Before the creation of an accessible digital archive, research at AFB necessarily took place in person. Visitors who could afford to do so traveled to New York City. Most of these visitors were sighted. For those with low vision, the AFB provided access to a closed-circuit television that can zoom in on text, and blind researchers were often accompanied by an assistant who read text aloud. Similarly, deaf-blind researchers had assistants who were familiar with tactile sign language.

The lack of accessible digital collections was discussed in Sara White's November/December 2013 *SAA Archival Outlook* article, "Disability: Uncovering Our Hidden History." This included a survey response from an individual with a disability. When asked if archives take disabled people into consideration when designing their websites, the individual noted that "digital collections are merely scanned images of archival collections without accessible mediums" (28). This is a problem.

Every time you create a digital record, or share an item online, you are either including or excluding users with disabilities, based on your approach. Web designers often inadvertently create barriers to assistive technology users, as well as users with low vision who aren't using assistive technology. These barriers include using color to indicate the sections of a page, labeling forms incorrectly, or not including captions, transcriptions, or descriptions for images (alt tags). For some individuals with low vision, it can be challenging to read web materials that are composed in unusual typefaces. Software that allows users to zoom in and out of an image may be useful to some users with low vision; however, these will be inaccessible to a user who is blind.

Accessible Websites

Accessible websites allow users to select text and transform it into a font of their choosing, and provide descriptions and text equivalents for images, video, and audio. These sites follow the web content accessibility guidelines of the Web Accessibility Initiative. The best mode for ensuring that digitized documents are accessible is to include a text version of the contents; this allows readers with vision loss to use assistive technology to access online materials. Screen-reader software programs, such as JAWS, VoiceOver, or NVDA, provide sophisticated speech or Braille output and a somewhat modified interface for both software and webpages. People with low vision may use screen magnification tools—like ZoomText or MAGic software—which enlarge text and images on the screen and often provide speech output.

A New Tool

AFB has long committed to making its website (www.afb.org) fully accessible to those who are blind or low vision. Because AFB did not find an adequate archival tool, it set out to design its own. Our web team—which was led by Cristal Earl, who is legally blind—made sure that the site can be smoothly navigated by those who can't see, as well as by those who can. In 2007, AFB designed and implemented an Encoded Archival Description web application software for its Talking Book Archive, which was fully accessible to both the software's

administrators and its end users who were blind or visually impaired. Six years later, this Encoded Archival Description software was used in a pilot project as proof of concept to digitize and disseminate the Helen Keller collection at the item level. This initiative was key to securing funding in 2015 from the National Endowment for the Humanities (NEH) for a large-scale digitization project and to develop a robust archival tool that was fully accessible to people with disabilities.

In collaboration with digitization vendor Hudson Archival in upstate New York and New Zealand software designer Veridian/DL Consulting, tens of thousands of images and their metadata were digitized in multiple file formats. All images are posted as JPEG2000 (JP2) files, and the archive administrators have access to downloadable TIFF, JPEG, PDF, and JP2 image files. But this was just the beginning. Under the watchful eye of Hudson Archival's president, Toya Dubin, an army of metadata assistants viewed each digital item (often consisting of multiple digital images), wrote a brief description of it, and selected subject terms from drop-down lists (taxonomies) that best described the item. Countless spreadsheets were generated and their information exported and transformed into a searchable database.

All this work would have been of little use to people who are blind or low vision if the interface itself were not accessible. AFB staff, in conjunction with Veridian, made sure that the website was coded using valid and properly labeled HTML on every page and that all the multimedia controls, such as any buttons that you could click on with a mouse, had an easily discoverable keyboard equivalent. We believe that through careful use of transcriptions, image descriptions, captions, and audio description as well as fully compliant code, AFB has pioneered the most accessible online archive currently available.

June 2018 saw the public launch of the digital archive and a celebration of the successful completion of the first phase of the project. Our main event was a pizza party at the New York Institute for Special Education in the Bronx. Not only was this a celebration, the event was also intended to showcase the value of the digital archive as an educational tool for children with visual impairments. We even had a cake celebrating Keller's birthday (June 27) and invited broadcast media to attend, resulting in wonderful press coverage.²

It Takes a Village

The complicated process of developing an accessible digital archive was a highly collaborative one. A myriad of individuals and organizations were involved, including staff at AFB, digitization vendor Hudson Archival, software designer Veridian/DL Consulting (led by Stefan Boddie), the Helen Keller Digitization Project Advisory Board (volunteers), and dozens of professionals and volunteers around the nation and the disability community.

The “It takes a village” mentality was never more clearly shown than when we tested the site for usability and transcribed documents for accessibility. From December 2016 through February 2017, Elizabeth Neal, Associate Director, Web Content Strategy at AFB, conducted usability tests of the customized website. Nineteen volunteers were recruited to test the site, roughly double the average size of a usability participant group. A broad cross section of testers was involved and included historians; technology experts; blindness professionals; student; older adults who are blind, deaf, or deafblind; and hearing and sighted users. The feedback was invaluable in understanding how to deliver a site that works for seasoned archivists, historians, and the general public alike. As a result of the feedback from the accessibility testing, we identified significant changes to the site’s nomenclature, organization, and layout, and the site was greatly improved.

The Helen Keller Archive is a treasure trove. Materials include correspondence from nine US presidents and leading figures such as Mark Twain, Pearl S. Buck, and Albert Einstein. Correspondence also includes letters to Keller from ordinary men, women, and children around the world whose stories have never been told. Beyond written materials, there are hundreds of gifts that Keller received during her lifetime, many from her trips around the globe. These, as well as press clippings, speeches, photographs, and film, form a massive archive with a wide range of formats. How do you make them all fully accessible?

The first important step in this process was the creation of text transcriptions of all typewritten pages using optical character recognition (OCR). OCR is a software program that enables computers to read scanned text and spits out accessible transcriptions. However, most handwriting cannot be deciphered by OCR, and typewritten text that is faded or uses unusual fonts can produce inaccurate transcriptions. In March 2018 we posted a request on Idealist.org for volunteers to transcribe handwritten documents (as well as poor-quality typewritten documents). Over forty volunteers around the nation came forward, and each of them was individually trained by Hudson Archival’s president to make corrections (including in French and German). As we became more proficient, we developed standards for transcription, ensuring uniformity and reducing inconsistencies. The only item each volunteer needed for the task was access to a computer with an internet connection.

Photographs and audio-visual materials required different treatment to be accessible. Over 1,500 images were studied and described for a visually impaired audience. Similarly, excerpts from the 1954 documentary *Helen Keller in Her Story* were captioned and audio-described, and full descriptive transcripts were provided to make the video content both more searchable and more accessible to blind and deafblind users. In addition, the video player controls themselves were high contrast and keyboard accessible, thanks to the open-source tool AFB developed in 2015, one of the first free, fully accessible, embedded video players with HTML5 controls.

Helen Keller Archive Curricula

Following on the heels of the success of the first NEH-funded project, in 2018 we received our second major grant from the NEH. This funding enabled us to complete the digitization process, further improve the customized site, and create accessible curricula for middle school students surrounding Keller's life and legacy. For too long, disability history has been overlooked and has remained inaccessible to our own communities. The digital Helen Keller Archive enables disabled students and scholars to see themselves in history and to shape that history through unmediated, independent research. Equally, it is important for sighted and hearing children, and indeed anyone in the public with access to a computer, to learn about the lives and achievements of disabled people.

Few collections can deliver such a wealth of primary and secondary source materials chronicling twentieth-century history. Our challenge was figuring out how to maximize the educational potential of the collection. In 2019, AFB began developing free lesson plans to teach middle and high school students about Keller's life, disability history, and the use, function, and value of digital archival collections. In January, we asked AFB's Helen Keller Advisory Board Committee, "What educational features should we develop for the Helen Keller Archive?" They responded, quite wisely, "Ask the teachers." That led us to create a focus group with educators at the Math and Science Exploratory School, MS 447, in Brooklyn to find out what tools they needed to bring the Helen Keller collection into their classrooms. Key themes for the lesson plans emerged, in support of specific Common Core curriculum standards. Recommended topics included the following:

- learning about digital and physical archives
- developing internet research skills, including how to use primary and secondary sources
- exploring disability rights and civil rights in Keller's lifetime

We created a team that included a project manager with experience creating curricula for museums, a curricula writer, a historian and college professor, our digitization vendor, AFB staff with accessibility expertise, and myself, the archivist. Over six months we hashed out our draft lesson plans, and in December 2019, sixty eighth-grade sighted and hearing students at Brooklyn's MS 447 helped AFB beta test the first lesson.

The curricula team observed how an experienced teacher adapted the lesson to fit available class time. It was fascinating to listen to students discuss the importance of preserving information, and the pros and cons of physical

and digital archival collections. Some students had never heard of Keller, while others had in-depth knowledge of her as a political advocate.

Difficulties with the Search and Browse features revealed the need for usability improvements, as well as greater emphasis on teaching digital research skills. The students were fascinated by accessibility and wanted to learn more about how people who are blind, deaf, and deafblind access multimedia content.

Accessibility for All

In June 2020 we launched our first two lessons: Introduction to Digital and Physical Archives, and Primary and Secondary Sources. Little did we expect that a global pandemic would underscore the importance of accessible online lesson plans for distance learning. During the summer of 2020 we decided to record the first lesson so that students could follow along, guided by a “virtual” teacher (AFB 2020). The lesson is accompanied by captions and a complete transcript for students who are deaf or hard of hearing.

With 2020 marking the centennial of the Nineteenth Amendment in the United States, we were thrilled to receive a grant from Humanities New York to create a lesson devoted to Keller and women’s suffrage using the digital archive. “Votes for Women, a Voice for All: Helen Keller, Suffragist” (AFB, n.d.-b) provided a golden opportunity to use the archive’s documents to teach students how to contextualize historical events. For instance, Keller gave a speech at a 1916 women’s conference in Chicago in support of women’s suffrage. This speech provides contemporaneous reporting on the fight for equal representation. Students can discuss historical events concerning the creation of a more equitable society and relate them to today’s actions to do the same.

As we developed this third lesson, we realized that we needed to address issues of race, class, and gender to provide broader context for Keller’s role in the suffrage movement. It became clear that the lesson would benefit greatly from the expertise of educators skilled in teaching the complex issues surrounding race in the United States, and in this instance, the historical inequity between Black and white suffragists. As a result, AFB reached out to college and middle school teachers as well as academics at Learning for Justice (formerly Teaching Tolerance). The feedback helped determine the contents and shape of all three lesson plans.

All three lessons are available on the Helen Keller Archive website and are included on the EDSITEment.neh.gov website (a partnership between the NEH and the National Trust for the Humanities). Coinciding with Women’s History Month in March 2021, the lesson plans and digital archive were included as a resource in the *Building a More Perfect Union* lesson plan book and are located in the subsection “The ADA & Taking Action for Access.”

Make Your Collections Accessible!

The digital Helen Keller Archive is an award-winning website used by historians, writers, and researchers worldwide. It represents a powerful vehicle for continuing Keller's work to build a more inclusive society. Creating a fully accessible digital archive for materials in multiple formats was a herculean task involving numerous organizations, professionals, and volunteers, and very importantly, it required the vision and extraordinary generosity of the NEH as well as other forward-thinking donors—and the ongoing commitment of AFB.

The challenges of creating a fully accessible digital archive have resulted in innovative tools that can benefit all archival collections, including the following:

- a tool that enables volunteers to transcribe documents remotely
- digital tools to improve the security of digital information and facilitate the dissemination of online archival collections worldwide
- a digital preservation tool that checks and allows administrators to repair and replace corrupted digital files
- template updates that enable software designer Veridian to improve the accessibility for every collection it hosts

The digitization of Helen Keller's archival collection—as with that of many other collections—greatly assists with the long-term preservation of information and its dissemination. But many online collections are useless to those with vision loss. Just as the Talking Book pioneered by AFB in the 1930s brought information and literature to thousands of people with vision loss around the world, today historical collections must be available to both nonsighted and sighted audiences if we are to create equal access to the vast amount of learning, culture, and education that is increasingly available on the web.³

Within the disability community, Keller continues to arouse debate resulting from her iconic status and her “elevation” as a disabled person. Modern scholars such as Georgina Kleege (2006) have reflected on problematic aspects of her legacy. The importance of the digital archive in grounding the debate in facts and primary sources cannot be overstated. In early January 2021, a bizarre idea circulated on the internet—that it was impossible for Keller, a deafblind woman, to have achieved all that she did. AFB responded with posts on its blog and on Facebook. The posts reflected on the importance of education and knowledge—as embodied by the digital Helen Keller Archive—in the face of prejudice and ignorance, and the importance of access to verifiable knowledge and information in a time when historical facts are questioned on social media. Negative attitudes toward people with disabilities remain embedded in modern society—even toward a figure whose standing we thought unassailable. This powerfully underscores the value of creating fully digital archival collections that provide

evidence of the role people with disabilities have played in shaping public policy and can teach schoolchildren as well as the general public about the past and, in our case, the abilities and extraordinary life of Helen Keller.

NOTES

- 1 This article originated with a short blog post for the Disability History Association (Selsdon, 2020).
- 2 Spectrum News, NY1. 2018. "Bronx students among first to access Helen Keller Archive." June 7. <https://www.ny1.com/nyc/bronx/news/2018/06/07/bronx-students-among-first-to-access-helen-keller-archive>.
- 3 For more information about the Talking Book historical collection, including digitized and transcribed audio examples, see Mara Mills, "A Listening Tour of the AFB Talking Book Archives," *AFB Blog*, May 28, 2021.

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