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Negotiating Permissions

In 1985, George Kerscher left his first career, as a high school teacher of literature, to pursue a graduate degree in computer science at the University of Montana. In addition to the typical challenges of academic study, Kerscher faced a unique one. He had recently lost his vision, and could no longer read normal print. At that time, readers with blindness or low vision could borrow special cassette recordings of many popular novels from national library services. But the specialized texts that Kerscher needed for his studies had never been recorded. Even if they were, it would have been very impractical to navigate assigned pages and reference materials on a cassette tape. At the time, the best solution available was for Kerscher

to hire an assistant to personally read the required materials aloud to him.

When Kerscher happened to meet the author of one of his computer science books, however, it occurred to him to ask if the digital file was available. Inspired, he soon wrote to several computer science publishers, requesting files and copyright permission to adapt their books for readers with disabilities. Kerscher spent weeks creating software that would convert the text files into a variety of accessible file formats. Readers requiring large print could easily adjust the font sizes. Those familiar with braille could read the books via a refreshable braille machine, or print a paper copy at home using a special printer. Users of Kurzweil text-to-speech reading machines, first sold in 1976, could listen to an automated audio performance. Realizing that many others like him could benefit from this type of service, Kerscher launched Computerized Books for the Blind and Print Disabled in 1988. "I was trying to reach people who were blind and physically handicapped," Kerscher explains, "but also include people who could not read standard print because of dyslexia or some other learning disability." The enterprise was never formally incorporated as either a for-profit or non-profit organization. "It was just me, in my basement." In those pre-Internet days, Kerscher received

book files on floppy disks, and mailed the converted files to other print-disabled readers. "I was shipping all over the world on diskette."

As in many other fields, the introduction of software allowed for a dramatic increase in productivity. Earlier services had to carefully pick and choose their titles, because each audio recording required many hours of volunteer labor to make them accessible. Kerscher's software accomplished this in just five seconds. For the first time, it became practical to convert entire catalogs of printed material into accessible formats. "At Microsoft Press, there was a woman in the publishing department whose father was blind," Kerscher recalls. "Every time they came out with a new book, she would put the book in a box, along with the diskettes, and ship it to me. As soon as I got that box, I processed the files."

Seeking Copyright Permissions

Kerscher's practice of requesting written permission from publishers was not strictly necessary, under *Sony Corporation of America v. Universal City Studios, Inc.*, a Supreme Court decision issued in 1984. Movie and television producers had argued that home users of Betamax, an early VCR technology, were committing copyright infringement by recording programs without their permission.

Sony narrowly won that case, with the Court holding that personal recording for time-shifting purposes was permitted under the fair use doctrine. Another court would almost certainly have applied the same logic to approve format-shifting by a print-disabled reader. Indeed, a footnote in *Sony* recalled that a House committee report had once identified "making a copy of a copyrighted work for the convenience of a blind person" as a prime example of fair use. Kerscher wanted to go further, however, making not just one personal copy but also distributing multiple copies to other print-disabled readers. This too would likely have been deemed fair use, but requesting permission avoided any possibility of dispute. Copyright law aside, Kerscher also needed publishers' assistance to access digital files; in those days, e-books were not yet sold, and scanning technology was still in its infancy.

Requesting copyright permission from publishers was also a well-established practice in the field. Recording for the Blind, an older and larger organization, began its practice of obtaining permission for each title before the Sony precedent was set. Although publishers were generally willing, the process of obtaining copyright permissions was very time consuming. "There were 10 to 20 people employed in this department, establishing the relationships with publishers," Kerscher recalls. "Somebody

with the publisher leaves and somebody new comes in, and they are like, 'What do you want this for?' " Not every publisher would respond; those that did typically required multiple follow-up calls. "The copyright license for accessibility is a non-revenue generating activity," Kerscher points out. "If you have two stacks of stuff on your desk and this stack brings in money and this stack does not bring in money, which stack is your boss going to have you work on first?"

Granting copyright permissions can also cost publishers money. Soliciting legal advice on a proposed charitable license can easily cost hundreds of dollars. The lawyer may even recommend an expensive review of each author's contract, to ensure the publisher has the authority to grant the permission. Publishers may also feel obligated to verify that the organization or person contacting them with a request is truly who they say they are. Even dealing with a large, trusted organization takes time and resources. Dealing with many individual requests from smaller organizations is considerably more difficult.

Seeking permission on a title-by-title basis, Kerscher says: "That would have been a show-stopper right there" for a small operation. Recognizing the potential scale his software could enable, Kerscher purposefully requested broader licenses. "I tried to get blanket copyright releases

for everything the publisher had." Many publishers obliged. Kerscher only ever worked with around two dozen publishers. That was enough, however, to secure all the books needed for his education in computer science. Thanks in part to the easy availability of accessible learning materials, computer programming became a leading area of employment for men and women with vision impairments.

The Chafee Amendment

In 1996, several national blind advocacy groups collaborated to push forward legislation to ease the laborious process of securing permissions. The bill amended copyright law to clarify that no permission was required from authors or publishers to convert books into accessible formats for print-disabled readers. Recorded as Section 121 of the U.S. Copyright Code, the law is commonly referred to as the Chafee Amendment, in honor of a senator influential to its passage. Organizations serving blind readers gained the ability to include titles without publisher permission. Publishers were also protected against the possibility of suits by authors.

A new nonprofit organization named Benetech emerged to take advantage of this new possibility at greater scale. To advance this work, Jim Fruchterman, founder and CEO, personally developed one of the earliest digital scanners.

Benetech would purchase an ordinary print copy and "chop" the spine off to enable scanning. The chopping machine, still in use today, resembles a weaving loom, with a mechanical crank to force a guillotine blade through all the pages. This removes the binding and frees the pages so they can pass through a scanner. Today's rapid-feed digital scanners zip through pages as quickly as a top-speed printer. Optical character recognition software then quickly converts the scanned pages into a searchable PDF. The digital file goes to proofreaders in India, who adjust metadata to capture headings and write descriptions of the accompanying images. The loose pages are wrapped in rubber bands and held on a bookshelf, in case a missing page is identified during proofreading. The finished files are made available through the Internet.

Freed from the slow and expensive process of obtaining permissions, Benetech quickly amassed the world's largest collection of books in accessible formats, available through a digital library called Bookshare. The Library of Congress typically produces two thousand audio recordings per year for readers with low-vision, especially the elderly. At its highest point, Recording for the Blind and Dyslexic produced seven thousand titles in a year. Benetech's Bookshare service now has close to six hundred thousand titles in its digital library. Each book is

available as a digital file in DAISY format. Developed specifically for print-disabled readers, DAISY text can be rendered in large-print, played aloud via text-to-voice, or transferred into braille. Readers with print disabilities can obtain access privileges to the Bookshare digital library in exchange for a fee, often paid by their university or public library.

As publishers gained comfort with Benetech's approach and e-books more generally, many of them came on as partners. HarperCollins signed a partnership agreement in 2005, and a few years later was sending Benetech the e-pub files for thousands of new titles each year. Even though it is not legally required, Benetech continues to follow the permissions route wherever possible. Receiving e-pub files directly from a partnering publisher is dramatically more cost-efficient than having to purchase, chop, and scan printed copies. While establishing partnerships and signing contracts with publishers remains "transactionally expensive," in Fruchterman's words, Benetech gets significant funding from the U.S. Department of Education. When a student needs a book for school and the publisher declines or ignores the permission request, Benetech still falls back on its chop-and-scan technology, protected by the Chafee Amendment. "We have never been sued," Fruchterman says, "but we have been threatened."

International Copyright Solutions

While the Chafee Amendment created immense new opportunities for organizations like Benetech, the law also had its limits. As an act of the U.S. Congress, the Chafee Amendment applied only to activities conducted within the United States. Around 2000, Recording for the Blind and Dyslexic took the decision to end its distribution to Canada, leaving print-disabled readers there without service. "They decided it was a legal risk," Kerscher explains. "I was in the room when the lawyer gave the advice that they should stop distribution." Kerscher was furious that the organization was abandoning readers who depended on it. "I said, just continue what you're doing, nobody will say anything, it will fly under the radar. Nobody was challenging it." Still, he acknowledges, a lawsuit might have gone either way, because Chafee did not securely create a right to distribute internationally.

For many years, Benetech also limited Bookshare's international reach. Fruchterman explains, "the legal constraints of copyright law being a national thing stopped us from serving the world from the inception." Benetech has developed a variety of technological tools to serve social needs, such as software to enable more secure communication between human rights defenders. "Every other project we'd ever done, international users

were half of our base within a few years," Fruchterman noted. "Bookshare was the exception, because the Chafee Amendment stops at the water's edge. People called and we could not help them."

Slowly, the organization developed workarounds to be able to serve overseas patrons. One approach was to secure global distribution rights from publishers when signing partnership agreements. Most publishers sign on globally. "The other way was to work on replicating the regime that made Bookshare possible in the United States, to make that an international norm." This effort proved much more difficult than the original passage of the domestic legislation.

Blind groups spent years lobbying for an international treaty at the World Intellectual Property Organization. The goal was to call upon more countries to create legal space for efforts to serve print-disabled readers. The American Federation for the Blind and other groups led the effort. They were amply supported by other NGOs and developing-country governments that saw this as the first step in a larger process of reforming international copyright law to facilitate library and education efforts. The publishing industry was reasonably supportive, but other trade groups bitterly opposed the treaty. They were concerned the effort was a Trojan horse in a

larger battle to weaken intellectual property protections. According to Fruchterman: "The number one opposition was the Motion Picture Association of America, followed by the patent holders. They had to be publicly embarrassed into backing off."

The Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled was adopted in 2013. Five years later, however, advocates were still working to get the United States, Great Britain, and the European Union to ratify the treaty. Fruchterman explains: "The whole key to Marrakesh has been to get a major publishing market to ratify. That is where the money and the books are." The first major breakthrough came in 2017, when the European Union voted to join. Its members were required to comply by 2018. For readers in Africa and Latin America, implementation by France and Spain was particularly important to enabling the use of books in those languages. Also in 2018, the U.S. Senate voted to ratify the Marrakesh treaty. Congress simultaneously updated the Chafee Amendment to include international exchanges. As a result, print-disabled readers in India now enjoy access to Bookshare's full collection, and Spanish-speakers living in the United States can now read accessible books from Spain.

Lessons

Commercial publishers have already proven willing to grant free licenses to nonprofits distributing digital books to disadvantaged populations. Negotiating these publishing partnerships, however, entails significant transaction costs. Getting a publishers' attention, establishing trust, communicating and explaining the request, drafting a contract, having lawyers review it, and following up take significant time and money. It is vastly more efficient for nonprofits to sign a blanket agreement with each publisher than to request permissions on a title-by-title basis. Clearly establishing that such uses are legal even without permission also facilitates such partnerships. This can be done either within the framework of fair use, or by adopting specific copyright exceptions.

As nonprofit publishers and book dealers tackle book hunger, they must keep in mind the special needs of print-disabled readers. A scientific review by the Vision Loss Expert Group estimates that by 2020, 38.5 million people will experience blindness. Visual impairment affects six times as many persons, and hundreds of millions need eyeglasses to read, but cannot get them. Dyslexia International estimates that 700 million people are dyslexic. All together, around one billion children and adults have some kind of print disability. New book files can be intentionally

designed to facilitate simple conversion into adaptive formats. Overlooking this design parameter at the start can make it much more difficult to correct the problem later.

It is commonly noted that digital technologies hold particular potential to empower people with disabilities. Far more often than is recognized, inventors with disabilities have themselves been the driving force behind technological developments. George Kerscher developed the first file format capable of rendering a work as text or audio to meet his own needs and those of others facing the same set of challenges. A partnership between Ray Kurzweil and Stevie Wonder produced the first synthesizer that actually sounded like a grand piano. Vint Cerf, one of the "fathers of the Internet," pioneered the early technology underlying email to better communicate with his wife—both had hearing disabilities. Readers with print disabilities were early adopters of books on tape and e-readers decades before most of us knew such things existed. Educational institutions for the blind were the first commercial adopters of flatbed scanners and text-to-speech software. Only later in the long process of development did all these technologies go mainstream, ultimately benefiting hundreds of millions of users.

Significantly, these groundbreaking innovative efforts did not take place in commercial firms, despite the promise

of patents for new inventions. The market for solutions specific to readers with disabilities was too small to lure profit-minded entities, even with strong intellectual property protection. Rather, university scientists and nonprofits serving people with disabilities, and individual inventors with disabilities, did the difficult and unprofitable work of pioneering innovation. I call this phenomenon "mission-driven innovation." As the saying goes, "Necessity is the mother of invention." Nonprofits serving readers excluded by mainstream formats and business models are uniquely positioned to do the hard work of developing new technologies and business models. For them, radical innovation in publishing is mission-critical. For organizations whose mission is generating profit, it makes no sense to invest in the costly work of solving such difficult problems. Academics, whose core mission is knowledge, may not always have the drive to see the research through to a practical solution. Successful innovation requires a willingness to push through failure, and the passion and commitment to keep trying decades before financial rewards are possible.

Once the difficult early work is done, mission-driven innovation often goes on to deliver enormous benefits to a much broader user base, and to the profit-minded companies that serve that broad user base. This has proved

true with many technologies initially developed to help readers with print disabilities. I predict it will also prove true for the tricks and techniques of book production and distribution that the organizations profiled in this book are pioneering to overcome book hunger.