Fighting the Information Famine
Interview with Brad Turner, Benetech

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KENNEALLY: Imagine a world without media – a place where written text, photographs, sound recordings, video and film all lie out of reach. You may think that, in 2017, there is no such vicinity. But think again.

Welcome to Copyright Clearance Center's podcast series. I'm Christopher Kenneally for Beyond the Book. The world of media and particularly digital media may seem to you and me as omnipresent as air. But millions across the globe live shut out from it. Some cannot see. Many have learning and developmental challenges. Addressing these and other barriers to information access is often considered too costly or too difficult, either by governments or by technology companies.

Palo Alto-based Benetech is a nonprofit with a single focus on developing technology for social good. Benetech's global literary program builds tools that makes it possible for people with limited accessibility to reach the information they need to change and improve their lives.

Brad Turner is Benetech Vice President in charge of that program, and he joins me now on Beyond the Book. And welcome, Brad Turner.

TURNER: Christopher, thanks for having me on.

KENNEALLY: Well, we're very interested in learning about all of this because accessibility to information is clearly critical. We live in an information age. And I guess we really want to start by talking at a high level about what Benetech is about. This is a mission-driven company – has been for more than two decades – and it focuses on the use of technology for social good. And usually all we hear about in the news these days is how technology is driving ever greater profits for the kinds of companies that we all use on a daily basis.

TURNER: We sit in the middle of the Silicon Valley in Palo Alto, and I see those companies. I drive past those companies every day. Benetech is a little bit different.

We are, as you mentioned in a very appropriate introduction – we are a mission-driven organization. We're nonprofit. And our main objective is to use technology to scale solutions for social good – for people that wouldn't otherwise have the opportunity to do things like read.

And my program is global literacy within Benetech. And we run the world's largest library for people who have difficulties reading traditional print, so people who are blind. People who have a physical – a mobility impairment that keeps them from turning the pages of a book or holding a book, and even people with dyslexia that affects their ability to read print.

KENNEALLY: Can you put a number on that? How many people are we talking about? I'm sure it must be in the millions around the world.

TURNER: Oh, around the world, it's in the hundreds of millions. The number that we see on a pretty regular basis is somewhere between 3% and 5% of the general population. And so in the U.S. alone, you're in the 50 million person range.

KENNEALLY: Well, it's a good point – because you mentioned in the U.S. alone, so while we think about challenges to information, we might think of less developed countries than our own and think the problem lies only there, but it's important to remind our listeners that the problem is one that really starts at home and then goes out from there.

TURNER: Yeah. I'm sorry, I misspoke. I said 50 – 15 million person range in the U.S. But it does. We have access to proper nutrition. We have access to proper health care, where in developing nations around the world, there are certainly things that we can address here in our industrialized society that they can't even address, and so all of a sudden you start to see these problems magnified, where diabetes is a leading cause of blindness in India. There are 50 million blind people in India, so the numbers get staggering as you go around the world.

KENNEALLY: Right. And it's a quality of life issue for those individuals who suffer from those diseases or other challenges. But this is also a way of holding back economies, holding back development.

TURNER: Oh, absolutely. There are statistics by the UN that talk about the level of education contributing to the GNP of a country. And I don't want to misstate, but that's two years of education is some percentage of the GNP – and also a reduction in violent conflict.

At Benetech, we believe that knowledge is a fundamental human right. And so Bookshare is really our way of trying to get information to people who otherwise wouldn't have access to it, because these are the people who are really the most left out.

KENNEALLY: So for Benetech and its global literary program, the key driver is the Bookshare program. Tell us about that.

TURNER: Yeah, so Bookshare is a library that has over 550,000 titles. We work directly with 850-plus publishers, who donate their titles to us. And then we turn around and provide those titles to people who have disabilities that affect their ability to read a traditionally printed book.

And we do that through electronic distribution. We take any one of those 550,000 titles, and we can put it out in an electronic Braille format or in a Braille format that they can take to an embosser to get a hard copy Braille book, but it's also in an audio format. It's in a large print format if they are visually impaired but not completely blind. And it's in a what we'd like to call a karaoke-style reading, which is really the highlighted text moving along with the spoken word, such that someone, for example, with dyslexia can follow the text as it's read to them.

KENNEALLY: And the kinds of titles – 550,000 titles – probably covers as wide a range as one could imagine. But is there any area where you are particularly generous in offering these books?

TURNER: Well, work with so many different publishers and they've been generous enough to just basically open their feed. We have 20,000 textbooks. We have

books that span really the whole gamut of things that are written, so the collection is great for students as it is for someone who's 100 years old.

KENNEALLY: Right. And it's in the DNA of Benetech to meet this challenge because, as I understand, your founder was a pioneer in character recognition. Can you briefly tell us that story?

TURNER: Yeah. He actually went to school as a – and actually came out of school and his first job was really as a rocket scientist and was building guidance systems and recognized that the guidance systems for aircraft was really the same as pattern recognition that you could use in a book. And so he turned and turned his talents to building optical character recognition systems and then into building reading machines for the blind, because that was the way it was done then is you either asked your friend or your parent to read you a book or you got a recording on an album or then a cassette tape.

And then what Benetech did was take that OCR – that optical character recognition technology – and use the e-book – electronic text – as sort of the foundation for being able to distribute these books via the Internet. So now somebody comes to our Website or uses an application that connects to our back-end repository, and they can request a book in any one of those formats that we just talked about and have that book being read to them in a matter of moments.

KENNEALLY: Right. And it's a wonderful story, because when Jim Fruchterman was working as a rocket scientist, what he was working in was pattern recognition, and he made that wonderful leap of imagination that scientists can make. We think imagination is limited only to artists and writers, but scientists have plenty of it as well. And he saw the potential there of that pattern recognition to recognize patterns in characters in the alphabet.

But he took that idea – he was a successful businessman and certainly, I'm sure, knew the VC community – the venture capital community – in Silicon Valley very well indeed – he took it to them, offered them the opportunity to invest in this new character recognition technology. And what happened then?

TURNER: As VCs will, they said, you know, where's my first 100 million users? And he said we're serving a much smaller community than that but this is incredibly

important. And when push come to shove, he said that's fine – if you're not going to fund my company, then I'm starting a nonprofit.

And he, sitting in the middle of the Silicon Valley, walked away from the potential for huge, grandiose fortunes doing some really amazing stuff and said my mission in life is to serve people with disabilities. And for 20 years has run arguably the most successful company doing that certainly in the U.S.

KENNEALLY: Well, the process as it has worked for a large part of the existence of Benetech is you take on board these titles and convert them using your technology into these forms that are accessible that you mentioned – Braille and audio and the rest – but your idea is to go to publishers and get them to sign up to being accessible from day one. What's that program and what's your challenge to publishers there?

TURNER: Yeah. So it's called Global Certified Accessible. And we really just launched it. But after working with over half a million titles and recognizing that every single title that comes in we actually programmatically have to modify slightly in order to make it accessible in any of those different formats.

We're always playing catch-up. And that's never a good situation to be in. And so why not get ahead of the game and say, look, if publishers publish this way in the first place, those books are available to people with disabilities.

And in fact, in most cases, those books are better for students or for people without disabilities, because imagine if you're – and I'll use a student – imagine if you're studying for an exam and you have to read through chapters and chapters and chapters. And you read through it, and you get kind of bleary eyed and you wonder what you read 20 minutes ago.

And if you could go back and read it and have it read to you at the same time, all of a sudden that's – we call that multimodal reading, and it's a much – you're getting that information through multiple pathways. So it's a better experience for all students but it also makes that book accessible for students with disabilities.

We are working with publishers to help them build books that way as well as then certify those titles so that the publishers who have made that effort to make those books better get rewarded for that.

And we're working with the largest book distributor on the planet in Ingram. Their CoreSourse and their VitalSource, which are their two kind of e-book distribution divisions – they will publish those scores so that procurement officers within the states or at the district level know which books are certified accessible and have a third party recommendation that this book is going to serve 100% of my students, not 95% of my students and I got to figure out what to do with the other 5%.

KENNEALLY: Right. Well, we are speaking right now with Brad Turner. He's Vice President at Benetech for the Global Literacy Program. And a good way to end this discussion is to ensure that our readers – our readers – our listeners (laughter) – maybe they could be our readers too because we do have transcripts published online – but our audience, to sort of put it in a non-media-centric way – our audience is probably thinking about reading as only letters on a page, but reading is also absorbing mathematical information, absorbing diagrams and illustrations. And indeed you have a program called the Diagram Center that addresses the particular challenges there.

TURNER: We do. The Diagram Center is really set up as a worldwide program – and we work with experts all around the planet – a worldwide program to expose everything beyond printed text.

Fifteen years ago, printed text was a challenge. Now arguably printed text is pretty easy because, as long as it's properly formatted, has page numbers, has a table of contents and chapter titles, your screen reader can read that. But when you get to an image, whether it's the Mona Lisa, or the Periodic Table of the Elements, or a schematic diagram for a circuit board, you screen reader doesn't read that. So when your book says to the right you see an image of the Mona Lisa, and then there's nothing, the student who's blind, the reader who is very low vision, can't grasp what that is trying to convey.

And so the diagram center is set up to be able to describe images, describe math, because when publishers put math into books, they want to make sure – into ebooks – they want to make sure it displays properly on any size screen. That means they

change it into a graphic so that the graphic resizes appropriately, but a screen reader doesn't know how to read a graphic.

So we help publishers get past all of that by providing image descriptions and alternative formats to describe all the images and the math, the chemical formulas, the diagrams, the schematics, everything.

KENNEALLY: All right. Well, we have been chatting today with Brad Turner, vice president of the Global literacy Program at Palo alto-based Benetech, and he's opened our eyes and ears and maybe some other senses we haven't been thinking about when it comes to information to the importance of accessibility for everyone in the media age.

Brad Turner, thank you for joining us on Beyond the Book.

TURNER: Chris, thank you very much.

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Beyond the Book co-producer and recording engineer is Jeremy Brieske of Burst Marketing. I'm Christopher Kenneally. Join us again soon on Beyond the Book.

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