This interview was recorded in June 2018.

Harley Ferris: Sean Zdenek is Associate Professor of Professional and Technical Writing at the University of Delaware. His book, *Reading Sounds: Closed-Captioned Media and Popular Culture*, won the 2017 award for Best Book in Technical or Scientific Communication from the Conference on College Composition and Communication.

[encouraging transitional music]

Courtney Danforth: Whenever I teach with video, I try to require my students to watch with closed captioning turned on because not only does it help them pay attention to the film, but it helps with spelling character names and things like that. But they're so resistant to it. They keep saying, "Oh, it's so ugly, sometimes it's wrong or it's distracting," or they hate all caps, of course. So one of the things I wanted to ask you is, these are some of the things that you're trying to react against in closed captioning.

Sean Zdenek: Yeah. Well, they're not always all caps, we see that more on TV, but DVD captions are never in all caps. They're in regular sentence or Roman case. We do hear that, and I follow all of the tweets about captioning, so I see people who are complaining, and some people really just don't like the pretty pictures being messed up with the words. There's a great historical study of captioning, I think it's just called *Closed Captioning* by George Downey, and he talks about the development of the original closed captions in the late 1970s (they debuted in 1980), and the idea was to come up with a solution that "would not be unpalatable to the hearing." And that's a direct quote. That phrase always sticks with me, because I guess the idea was that some hearing people just would react negatively. And they still do today, not to stereotype hearing people.

CD: [laughs]

SZ: But you do get that reaction from people who you know may not be used to it, or maybe not have a family member or a need really to watch with captions. You know, I'm not sure what the solution is necessarily. I think once you start watching you begin to see that captions can be really helpful. You mentioned names, and there are a lot of weird-sounding or unusual-sounding names on TV and in the movies, and just to have a captioner spell that out for you. Or music lyrics, too, people get music lyrics wrong all the time. There's even a name for that, right, mondegreens, when people are mishearing lyrics and captioners can tell you what people are singing if they're captioning the lyrics. I mean, those are just two examples. There are all kinds of things going on that, I think, really add to the experience for everybody, you know, hearing, hard-of-hearing, deaf.

CD: It reminds me a bit of the conversation that's been happening in the opera world about supertitling opera. And there's a lot of controversy about whether to translate the lyrics that

are being sung on stage, and is that allowable. Or is it, you know, qualification for entry that you should be able to understand sung Italian if you're going to go to the opera. Kind of a snob question, in that case, but a little bit like what you're talking about here.

SZ: Yeah, I can't remember what I was watching, but people were talking and the lyrics were intruding. I'm going to have to think after this about what that show was, because I thought I might get the clip out and play around with this a little bit. I mean this is one the problems, when you try to caption everything and end up creating greater confusion. That's not necessarily the opera example, but when you've got a spoken, speech caption and then you have a music lyric caption, then you have a speech caption, and really the point is to hear the conversation and the music is in the background, how do you indicate the music's in the background. You can't really do that with traditional captions. And so I think there are arguments that at times lyrics may be a bit more intrusive. I say that really carefully because captioning advocates want everything captioned, including lyrics. The challenge is to try to produce captions that don't end up confusing people when you have multiple kinds of speech or multiple kinds of sounds happening at once.

CD: I was thinking about a film that came out recently, and I was wondering if you had seen it because it seemed like if you had it would have gone into your article except for the bad timing, but *A Quiet Place* does these incredibly interesting things with captioning. Are you familiar with it?

SZ: I'm familiar with it, but I haven't seen it.

CD: Oh really? You are going to love it!

SZ: They subtitle the sign language, is that right?

CD: They weren't going to originally. They were going to leave it completely unsubtitled, which I think is fascinating. And then apparently there was a plot hole in one scene that caused them to add the subtitles. Then the captions just totally drop off when the subtitles leave for ASL, there's no captioning for the spoken language which isn't much. But I'm fascinated by all the different reactions to that change in the reviews that I was reading.

SZ: I haven't seen it, but I've seen some of the tweets.

CD: Well, there is definitely a follow-up article in that for you, if you're into it. I can't think of anyone else I'd rather talk to about it.

SZ: Yeah, I mean, that's one that stands out to me.

CD: You know, it got me wondering. There isn't much natively sign language material. The topic of captioning, that hasn't I suppose come up before, at least I haven't paid attention to it.

SZ: That's true. Yeah, I mean for me the way into this article was a Russian movie, *Night Watch*, and I have some animated GIFs in my article because the director played a role in subtitling that movie into English rather than dubbing it into English speech. He played a part and the captions kind of swirl at times, or they turn colors, or they turn into blood. And I thought that was really cool, especially because of the unusual step of having a director or producer involved in the subtitling or captioning, which you don't see. And that's part of the problem here, the separation between producers and captioners.

CD: Are there other examples of directors who've become so involved with the captioning or subtitling of their film?

SZ: I don't know, once in a while you'll see some interesting things happen in English-language movies that might incorporate some foreign speech. Like the *John Wick* movies, which have that whole kind of red and green aesthetic. And there are a lot of Russians in that movie, I'm thinking about the first *John Wick*, and the subtitles will be larger, maybe a few words will be colored in red. You know, things like that that are kind of subtle where the subtitles are intended for everybody, and so the producer might take a little more time to kind of craft them.

CD: That's a real contrast to the other scenario that you've written about, where the whole film is essentially finished and then it just gets handed off for the fastest possible subtitling or captioning, the cheapest and fastest to do the bare minimum to meet the requirements.

SZ: I think that's basically the norm in high-production movie and television captioning. Get it done quickly ship it off. Captioning is kind of a third-party thing. I've talked to captioners, and they really do care about their craft, but they don't always have a lot of resources to work with. They have time constraints and resource, money constraints that result in captions that are sort of done quickly. And technology, really, that hasn't changed. I mean, the captions that we look at today are the same as the captions we looked at in the 90s, even as technology has been revolutionized. You know, movies like Avatar and others just they wouldn't have looked very good in the 1990s. I mean, this sort of revolution with CGI just hasn't really come to captions. So there's a whole bunch of things going on that produce that captions that we have today.

CD: And that's where some of the techniques that you're showing in this article are coming through. By using italics, and by changing colors, and by repositioning the captions in different geographic locations on the screen, can help us to navigate where the sound is coming from and what its function is.

SZ: Well I hope so. These are experiments, and I think they really need to be tested by audiences who depend on closed captions. I think they're disruptive, but they are aimed at trying to maybe re-embody captions or create some kind of dimensionality. When I started this, I was really interested in just trying to put captions in the background. There are a couple examples in *Night Watch* where an object ends up covering the captions, or the subtitles rather, and so you get the sense that these subtitles are in the film, they're actually kind of layered in. They're behind objects in the foreground, they're literally in the background in some places. And so I tried to do that, and it's kind of fun to learn how to do that in After Effects. And

I don't know that I have any examples in this *Kairos* article of subtitles doing that. No, maybe I do have one or two, but I was really interested in trying to play with dimensionality a little bit. I call this the problem of distance. Near and far sounds are hard, it's hard to distinguish near from far in traditional captions. Is it a way to distinguish near from far sounds, far away sounds, is there a way to do that formally sort of playing around with type size or putting captions literally in the background?

CD: That would be in contrast to doing something like typing the words "Dog barking far away," for example—you would want to change the presentation of the word "barking" to indicate that it was far away or that it was near, right?

SZ: Yeah, you know, the kind of generic way of doing that is to use the words "In the distance." If you want to say that something is in the background, you use "in the distance" and that kind of adds a lot of characters, too, to your line. If you only have 32 or 40 characters, you're already- I mean, so there are ways to indicate in words that something is in the distance, but could we do that without using those words? And I think maybe with type size, or with having a caption that ends up being blocked later on by an object in the scene. I mean, this can be controversial playing around with objects that end up covering the words you're supposed to see or playing around with type size, because type size should be controlled by the user. If you want something larger you should be able to make it larger. But I think it's an interesting question to ask, can we use formal techniques of color and size and even icons to indicate the function or the meaning of captions?

CD: I know that one primary reason that you are interested in captioning studies is for an audience of non-hearing folks. But I think what you're presenting in this article is that there is also a hearing audience for captions, or there can be at least, in that the richer the captions that are made, and the more of an authorial voice is involved in them, the more likely a hearing audience is to appreciate them. So is that something that that you've spent much time thinking about?

SZ: Yeah, a little bit, and I do get some feedback. I was at a conference last week, and that was basically a comment from the audience. I showed a few of these clips, and someone in the audience basically said that these could be used for useful for everyone. I mean, that's the kind of Universal Design argument. We don't want to lose the focus on the primary audience, I don't think, these are the audiences who depend on quality captions. At the same time, I think there is a way to make captioning palatable or enjoyable, or more meaningful to a larger population. I mean, you know, I'm hearing and interested in captioning, I have a family member who is deaf, so I do listen, but I read as well, and I'm sort of interested in how captions can benefit that diverse group of viewers.

CD: It makes me wonder what the relative population size is audience-wise, hearing vs. not-hearing users of captions. I'm fascinated by that particular issue.

SZ: Yeah, that is a good question. I don't know that I have those numbers off the top of my head. I know the numbers of deaf and hard-of-hearing people in this country, but then as you

start to break it down, how often do you watch TV or do you watch television and then break it down with hearing viewers. I don't know that we have those statistics.

CD: I'm sure really difficult to get the statistics on hearing viewers who watch with captions and then why they are watching with captions. Whether they're watching with a family member who uses them or whether they just like them, or whatever reason. It just seems like a fruitful area for further research.

SZ: Yeah, definitely, I do follow the tweets as I mention and I do get a sense of why people are watching, at least those who tweet, right. This is kind of a narrow— Some of them talk about misspelled words, and incorrect autocaptioning, but others will talk about just things that the captions helped them understand. Or maybe they couldn't hear something, and then they have sort of a short Twitter thread with others who say, turn the captions on, maybe the captioner will tell you who was speaking or what they said.

CD: That's interesting, I wonder how long does it take for someone to say, well, you know, check the captions or how many different varieties are heard before the caption is consulted.

SZ: That's right, there's also an assumption really quickly that the captioner is this kind of final arbiter or adjudicator of meaning. I interviewed captioners and they don't all always know. They're third parties, they may have a script. I talked to a captioner who was responsible, her company was responsible for captioning, this is a few years ago, for captioning the back catalog of MTV videos. They didn't even have access to the artists, so they were doing what we would do, which is to just Google the song.

CD: [laughs]

SZ: Or just to do their some internet searching to try to find. And you might find competing lyrics for the same songs. So I think it's interesting how much trust sometimes people put in the captioner. And captioners are really good, but they don't always know, or their information may be incorrect if they don't have access to official lyrics or something.

CD: You know, we have a bunch of tools to help deal with that through digital humanities, right. We could do a huge textual analysis to come up with the most likely correct lyric or something. But I imagine that is not a set of resources that's available to captioners. Most of them are, I am guessing, not coming out of a digital humanities training. They're court reporters, maybe? They have different skill sets, that they wouldn't have these tools ready for them, nor do they have the time to use them, I guess.

SZ: That's true, I interviewed a captioner who said they do receive materials like scripts and such, but those are only about 40-60% helpful. Which really fascinated me because it meant that captioners do a lot of rhetorical inventing of meaning. Deciding that a sound should be captioned in a certain way is really up to the sole discretion of the captioner, I find that really fascinating.

CD: Yeah, what a job, wow.

SZ: Yeah, and you must do it quickly, you might be working with other people in a kind of captioning bullpen. I've only interviewed captioners here, so I don't know a lot about how this work gets done, but I'd love to do a sort of field study, workplace study at a small or large captioning office.

CD: [laughs] I would love to read that, please get on it.

SZ: Sure, yeah.

CD: In all your spare time, of course. So I wanted to ask you, you just said you haven't done this yet but you know something about how traditional closed-captioning gets done, what the process is, what the technology is. And I wanted to ask, how the process that you have been using in these experiments differs from the commercial process.

SZ: [Laughs] Well, my process was painstakingly long. It simply wouldn't work with the sort of current market, the current economics of how captioning gets done. It would time consuming and labor intensive. It would require I think some skills that captioners could learn, but it might take some time and I think the learning curve is kind of high to learn something like After Effects. This project was totally experimental, and I think I'm the first to acknowledge that this really isn't practical. At the same time, I think we need to be experimenting with captions in the same way that we experiment with other kinds of texts or activities that we're interested in.

But your question about process. I don't know, I think it would have to radically change. First our priorities would change. You know we would have to prioritize captioning and kind of integrate it. This is a term that Janine Butler uses, "integral captions." If we were really serious about integrating captions, we would have to change everything. Getting producers or directors involved, putting a lot more money into the process, having people who are trained in different ways, integrating captioning much earlier, thinking about where captions are going to be placed on the screen. I don't know, that's a lot of stuff there. And I think that's why these experiments, they're really experimental, and I included the word "disruptive" in that title because they really are, I think, disruptive. And some people may just not like them as well because they can't be turned off, they're burned in, right, so everybody is forced to see them. And some of the things I'm doing kind of change the meaning. When you put a bomb timer on the screen so people can attend to that countdown when they can't hear it, maybe that's not what was intended. Maybe you didn't intend as a producer of that movie to keep the bomb timer on the screen.

CD: It's all the more reason to have the producer be a part of the conversation as the captions are being developed, right?

SZ: Yeah, well that's an argument that Udo and Fels make in a 2010 article, it's called "The Poster Children of Universal Design." You know, we hold up captioning and audio description as kind of "poster children," putting those words in quote. But you know if we're really serious

about universal design, then captioning should come much earlier. You know, we hold captioning up, but it comes at the end, right, it's not really integrated into that process.

CD: It seems to me that part of the problem with changing the captioning industry with movies and television is the money-generating enterprise, and so it's not to the advantage of the industry to change things dramatically. They have a set way of doing things because that's a resource-efficient way of doing it. But a place that doesn't perhaps depend quite so much on ready return of income would be education. So, you're doing this in the right spot. So it makes me wonder whether we shouldn't have our students experimenting more with how to change the captioning industry, and then we teach the movie industry how to do it.

SZ: That's great [laughs], I personally think we need to have a web accessibility course at the undergraduate level in technical communication. I don't know that we always have the room for that, I think we should make room, you know, just sort of opening our students up to wider notions of audience and users. You know, we tend to assume that users in technical communication and audiences are able-bodied, and I think we need to maybe shift our focus, shift our attention. And maybe I'm dreaming, but maybe this is one small way of encouraging that kind of reimagining of audience and users.

CD: Are you teaching students to do this type of work? Where is it happening that you're aware of?

SZ: I haven't done this at the undergraduate level, but in the fall I'm teaching a course (hopefully it will make). It's called "Web Access for All." It'll be the first time that I will have taught a course at the undergraduate level. And for many years at Texas Tech I taught a graduate course, and I called it "Web Accessibility and Disability Studies." And we would do the kind of theoretical readings in disability studies to provide that kind of grounding for some more practical stuff like captioning and audio description and PDF accessibility and so on. I don't know that there are courses like that in technical communication. Although maybe we're starting to see some, slowly.

CD: I teach something like that assignment in a literature class when I teach sound writing, one of the ways that I am teaching students to listen—it's a listening exercise as I've imagined it—is I have them transcribe a piece of audio material. Which is a little like going back and doing captioning for a video production. But I'm asking them to listen for non-speech sounds, I'm asking them to decipher the speech that they're hearing and to transcribe that. So it's along those lines, but that's also just one weekly assignment out of my whole course. Can't make a lot of progress that quickly.

SZ: No, but I think that's great. Here at the University of Delaware we have a minor in disability studies, and it's the largest minor on campus.

CD: Cool!

SZ: So I think that's one way to maybe just encourage these kinds of conversations. And I don't have a problem with one assignment, I'm sort of maybe shooting for the moon with entire courses or entire degrees or something like that. But I think just an awareness, even if it involves one assignment, I think is the right way to go.

CD: Well, imagining that some of our listeners might think, hey, maybe I could do that as one assignment or maybe I can develop a new course, what do you think the process would be for starting up a classroom of undergraduates, let's say, to do some sort of captioning-type exercise?

SZ: Sure, as part of one assignment of a course?

CD: Something like that.

SZ: Well there are already some really easy-to-use software programs that don't require much overhead in terms of training or learning. Amara, A-M-A-R-A.org, amara.org is really great. It's a kind of stripped-down interface, it's not going to do too much. It's built for speed for transcribing. I think introducing students to that early on, I guess the challenge is trying to bring captioning in in the middle or at the beginning rather than at the end, and Amara works really well at the end. You just enter your YouTube video address, I guess it has to be online, or Vimeo. That's one of the challenges, putting it online. And then I think you're ready to go. You can introduce students to captioning guidelines, get them thinking about presentation speed. I'm sure I'm speaking really quickly here, but there are guidelines for presentation speed and word per minute. I've been really fascinated lately with words per minute and how fast people speak on TV, like 140 words per minute, 160, these are all numbers, 180, these are all numbers that the guidelines talk about.

So there's a set of guidelines, captioningkey.org, or just search for The Captioning Key, funded by the Department of Education, I believe. So kind of a standard set of guidelines that cover a whole bunch of stuff, like you were mentioning non-speech, how to format non-speech. I mean it could just part of one class day, talking about captioning style guidelines, just to get that information in students' head and get them thinking about it.

CD: What I found with my students, when they report back to me after this exercise, they say, "Gosh I never thought about it that way before," my hearing students at least. "I've never thought about television that way or I've never thought about more often dealing with oral histories, I thought I was just supposed to listen." And once I've had them write down things they think, "Oh, gosh, yeah, I heard a lawnmower in that one. Does that mean anything, does that add anything to the official purpose of what I just listened to?" So even just having them listen to it seems to be bring an extra lens for reading future media texts. Which I would say is useful.

SZ: That's a great point, you remind me of concepts of agile listening or something, maybe from sound studies. Or is it called the sound walk or the listening walk, where you sort of take a tour, you have your students walk. Your hearing students take a walk somewhere and they sort of

listen in a new way. And you're making me think now that maybe captioning could is a way to kind of supplement those activities, getting students to listen in a new way, or listen differently or listen more carefully because they're going to be responsible for captioning that information.

CD: Or if you're going to have them produce something later on, gives them forethought on how to arrange what they're planning to do so that it allows room for smart captioning later, they're not doing it at the same time.

SZ: Yeah, there's one study from the late 1990s, Carl Jensema, and I think he used a lot of deaf and hard-of-hearing participants. The main finding was that his participants were looking at captions. It was an eye-tracking study, so they were looking at captions between 82 and 86% of the time. I think the percentage was like 84%. So when we talk about reading quickly, our eyes are going to be focused almost exclusively, if we are deaf or hard-of-hearing, on the caption layer. And that's not really the point, the point is understand what's going on but also to take in what's happening away from the captions. So yeah, I think talking about reading speed and guidelines and getting students thinking about, as you said, where captions are going to fit and how to make them fit, all of that stuff, yeah, I think is important.

CD: You know, I was thinking about your work on reading speeds. I went to see the new horror movie called *Heredity* with Toni Collette. But at the beginning of the film there is a clip of an obituary. And as soon as it came on screen, I panicked, thinking, "Oh my gosh, I have to hurry up and read the whole thing because I want to make to the end before the actual movie starts." But there was this huge anxiety in, am I going to be able to read this fast enough before the movie continues along without me? So I think that's the experience that you're describing with reading speed. A captioner needs to be attentive to that so that the anticipated audience will be able to take in the captions before they move along. But gosh, it was not a very fun way to watch a movie with all that anxiety, especially the beginning of a horror movie.

SZ: Yeah, I've been there and I have a couple things really quickly. You know I've been watching *Arrested Development*, and they do this sort of thing on purpose, they will throw up some kind of flashback or flashforward, like Buster and his mother at some fashion show or something. They'll put up this picture for like half a second and I think they expect us really to pause or go back. You can't really do that, and it doesn't always make it so enjoyable if you have to do that on Netflix to catch the captions that you missed. But yeah, I think speed and attending to and sort of reading and understanding, all of that stuff adds to the kind of pressure that readers are under when they depend on captions.

CD: I was wondering what the conversations were around *Star Wars*. Because it has that scrolling text at the beginning of it. And I imagined someone said, no that's too fast, no it's got to be faster no, that's too many words per line, I'm sure those conversations happened. Not in a captioning context because that's part of the film, but wouldn't it be fascinating to go back and hear how they made those decisions.

SZ: Yeah, I think about that with *Star Wars*, I think about that with every movie that opens with *the year is 2042, the world is desolated by, decimated* rather *by overpopulation*. And so you've

got to read all that stuff to get the context and then you don't want to miss it and have to go back. You want to read as you fast as you can. I took a reading speed test recently, these are online. And I've been thinking lately that I'm not reading fast enough. Sometimes I just kind of read on my phone for pleasure, just looking at the sentences and the words and I don't know, I've sort of been reflecting on my own reading speed. Anyway, this is something that I've just begun to think about and I'm interested in. I've created some visualizations that plot every reading speed for every caption in ten different movies. You can do this, you can automate this process partially. Anyway, it's been on my mind the problem of presentation rate or reading speed.

CD: Yeah. I had asked about what the captioning industry was like, and so I think I understand what the business side of that is. What I don't have is any sort of clear idea of what—maybe fan community isn't exactly the right term, but what is the user enthusiast community like for captioning? You've pointed to several sites that help people find the right captions for the film, let's say, that they want to see. But is there any sort of community for enthusiasts to write their own captions and make those available to deaf users? Are there people who are non-scholars who are out there experimenting with captions and trying to do things better?

SZ: A little bit, and I don't know much about this community, but the fan subbing community that is taking content in Japanese, I think, and subtitling it into English. And there are, I don't know a lot about this, but I have seen some of their work, which can be kind of creative, using scrolling text. And there's a program actually that supports this work. It's called Aegisub, A-E-G-I-S-U-B, and I think the website is .org, and it supports some of the things that I would like to see traditional captions support, like different colors for captions and even some animations. You have to be careful with animations, you don't want text swirling all over the place. But some of the more advanced features I think are being experimented with a bit in fan subbing communities. And then you know they're producing this work for subtitling, not for captioning. And captioning assumes that the reader cannot hear or is hard-of-hearing. But subtitlists just assume that you don't have access to, or subtitlers, assume that you don't have access to the language. But you can hear.

CD: It just seems like such an area ripe for experimentation by hobbyists.

SZ: I think so, and people are really interested in having access to information in other languages. I'm not sure what the kind of legal status of these sites are, I think one was raided in Sweden, but a site like subscene, S-U-B-S-C-E-N-E.com, is just a warehouse of captioning and subtitle files for any movie you can think of in up to 40 different languages. So there is a real need and thirst for information to be translated, movies to be translated into the language that you want.

CD: How robust is the metadata for those files? Is it easy enough to find exact, like I want captioning in French, for example, or can you be specific about what it is that you're looking for and trying to find those extra files?

SZ: I don't think it's rich enough. You can't search inside the files. And I've tried to use some of the files on these sites. I'm not an expert on these sites, but I ended up extracting captions directly from the DVD myself because I couldn't always trust the captions that I downloaded from these sites were the same ones that I was seeing on the DVD. So I just went through the painstaking process for my book of extracting captions by hand out of DVDS, which takes [laughs] a few hours.

But the question about metadata. Yeah, it's organized by language, but you can't search inside the files, which I think is a real bummer. If you wanted to just find all of the captions for "dog barking" or "dogs barking in the distance" or something, or all of the "in the distance" captions, I can do that because my son wrote me a small program to search to my little corpus. But I'd love to be able to do that on these really large sites. And the other thing about these sites is that they're mostly sharing subtitle files for people who are presumed to be hearing. So you'll see a little icon, it's like a little ear-icon sprinkled through these sites, that are supposed to denote the that these captions are for deaf and hard-of-hearing viewers. But they are kind of sprinkled through these sites, and the main focus is on sharing subtitle files, which these are just speech only, not speech and non-speech.

CD: Right, different enterprise. Well, any librarians who happen to be listening, this is an area for you to jump in and help out. And build a smart database that would help us do some of these things.

SZ: Yeah absolutely, and kind of reading up on alt text and how machines are creating alt text descriptions for images. And I really want a large corpus. I mean, there are data, HTML scrapers, and you can scrape for alt text, but I'd love to have a million alt text descriptions. But yeah, I think we're at a point, people like us, where we need more and more. We'd love to have access to all this rich textual data that may be kind of hidden or not accessible to us.

CD: We want to talk about how the techniques that you've described in this article, about enhanced captioning and all the different parts of that tool set. We've talked about how they're used for captioning but there are also uses outside of strict accessibility. I'm thinking of something like kinetic typography, for instance, which has a lot of things in common with the type of thing you're talking about here. So imagining the future articles that might be published in *Kairos*, what are some ways that writers could use the type of techniques you're talking about?

SZ: That's a great question. I don't know that I have thought too much outside of accessibility. I think you gave me one good starting place, which is more ways of working with text, kinetic typography or enhanced typography. Another area might be working with sort of non-linguistic ways of creating meaning. So I experimented a bit in this article with using icons. Instead of just repeating 14 times "Cross now" because the crosswalk sound was saying "Cross now" in *Bladerunner,* the original *Bladerunner,* "Cross now, cross now," this kind of boring set of captions 14 times. I just took the crosswalk symbol out of the scene and just had it flash 14 times.

I think there are ways we can work with some nonlinguistic or alternative ways of representing sound. And then maybe a third way might be with visualizing sound itself. I mentioned that I've been trying to visualize reading speed. And this is all kind of new to me, you know like on a scatterplot. And I think that might be another sort of application here, like how can we represent sonic information. And others are already working on this, right, but I think accessibility provides another way for us to think about how we can visualize sound.

CD: I can't wait to see a caption set that is done almost entirely in emojis. That seems ready to go, right?

SZ: Yes, well you know, when text messages are being shared on the latest teen drama or something like that, you know, those text messages are visualized for everybody and emojis are going to be shown. I'm thinking of an example, I can't think of the name of it, maybe kind of a teen vampire thing, where there was a pig emoji and you know, whatever. A smiley face emoji, and those were part of the visualized text message. So I don't know, there's precedent, I think for emojis.

CD: Well, you know, it's a standardized language of sorts.

SZ: That's true.

CD: It might work.

SZ: In small doses, yes.

CD: So you're involved in caption studies, which as far as I know doesn't exist as a department on its own. So where does that field live and who are the people who involved in doing that type of work?

SZ: Sure. Well, this is a term that I started using in my book, and honestly, I don't know that anyone calls what they do "caption studies." I mean this is sort of like, hey maybe this is caption studies, it's sort of performative. Like if we start using this term, maybe we can start treating all of this activity as unified and coordinated. Also, the term "studies" is kind of a humanities term, right, gender studies, and all of the different studies, I think, tend to be kind of humanistic. So I imagine caption studies to incorporate a lot of different people, including the computer scientists who have worked on some enhanced captioning studies. But also the people who maybe have overlooked captioning. What would captioning be like if we made it into a humanistic enterprise where we treated captions seriously as a kind of text to be interpreted and studied and experimented with? And so that's what caption studies is, but I think I may just about the only person who uses that name. I was fortunate after the publication of my book that Greg Zobel organized a conference, an online conference called "Caption Studies." I think the term got a little bit of publicity there but again, it's really kind of performative. I hope that, I don't know, maybe it's not necessarily that important that it catches on, but it was my way of signaling that maybe we can at least have a whole book here on this topic and then see what happens.

CD: Well, at least in terms of rhetoric and comp, we have started to do a lot more with film, with audio, with things that might be captioned or transcribed. But there has not been quite enough attention to the captions that go along with those things.

SZ: You know, a small number of people are beginning to take captions seriously in our field. I'm thinking about technical communication and rhetoric. I don't want to suggest that it's me and me alone, I mean there's some important work that has started to happen, I think, and I'm glad to be a part of that.

CD: I'd only read parts of your book before and I wanted to read the whole thing before talked today, but I was driving cross country last week. So I had your book on my Kindle, and I was trying to figure out a way to make my Kindle read it out loud to me while I was driving 38 hours. And I managed to make it do it, but it would only read one page at a time. Which was frustrating because I was driving. And uh the Kindle version at least didn't use smart markup, so there was no change in tone for chapter titles versus the text of the chapter, for example. And it read all the URLs, the whole URL out to me, which is irritating. And then it didn't read punctuation, like the square brackets that are used for captioning, which was incredibly frustrating. And then I have a British voice attached to my screen reader, and so it kept reading the title of your book as the place name, "Reading," instead of the verb, "reading." Many frustrations in trying to listen to your book or trying to adapt it to my particular needs at that moment. In the irony, I suppose, and I thought you might be amused by knowing that.

SZ: Yeah, and you know sometimes, I mean this is an accessibility issue, and you mentioned the Kindle. And in this accessibility class that I taught, the original Kindles were not accessible to non-sighted viewers because they had buttons. And the buttons didn't announce themselves, so you couldn't operate the interface with the original push-button Kindle.

CD: Really!

SZ: Yeah, 2000-whatever it was, and there was a lawsuit I talk a little about, I think there was a lawsuit, or at least the Department of Justice got involved. Oh, because university classrooms were going to use the Kindle. They got some big grant and so they got in a little bit of trouble about that and the Kindles had to be kind of, the next Kindles were better. So your Kindle should do that, I mean it does it. I didn't know that you couldn't keep it going, I mean it should do that for accessibility for people who need to listen because they can't see. But I didn't know that it stops after every page, that kind of surprises me.

CD: Well, that may just be Courtney's limitations in knowing that technology. I don't usually use Kindle to read anything to me. I prefer produced audio books because they have the right pauses and things in them. I assume it's probably just that I didn't know how to make that happen. But the whole idea was to keep my hands on the wheel, so having to turn it off to turn the page and then turn it back on, kind of frustrating.

SZ: Yes, and there, this is accessibility, there are times when sighted people are kind of "blind," you know, in quotes, where we're not supposed to look away. Sometimes sighted people can't look at their screens, so how can they use gestures? I think these are all fascinating kind of confluences, I guess, where we all get involved and it sort of benefits lots of different people. These things are interesting developments.

CD: Well, it was a wonderful reminder to me to keep experimenting with questions of accessibility. Because there are things to learn no matter one's ability about how to use a text. Which that's the work that we're supposed to be doing here, how to access the material. And to access it in a quality way.

SZ: You know, I had to learn After Effects for this, and I say learn, but I'm still kind of learning it. I mean, if somebody wanted to do this kind of work, or if you wanted to teach students how to do it, this is not your first class in video. Maybe it's your first class in video production or something, but I mean, it couldn't be like a tech comm class necessarily. It's really kind of advanced and there's a kind of steep learning curve. This article took maybe 6-8 months just to create the clips, the 40 clips that I proposed as part of this grant proposal.

CD: And does that include the time that you took to learn the software that you were going to use?

SZ: I mean, I was learning it as I was making the clips. And I'm sort of curious to see what the public thinks about these clips. I'd love for some of this stuff to be done in the hands of someone who specializes in CGI or something like that, video editing, video production. This is just me learning the software because I really wanted to make the captions drip with blood, for example. Or I really wanted to make the captions kind of appear, materialize out of the smoke or ether. And so some of my experiments are kind of rudimentary, I'll be the first to admit that, because I was learning After Effects at the same time that I was trying to make the clips.

CD: So let's walk through that process. Pretend you have your set of clips, you have the clip that you're going to work on. Then what happens?

SZ: Sure, the clip has been extracted from Netflix or from a DVD. I might have two copies of it, one that doesn't have the captions so I can make my own and the other that's the original, so that I can show people what the original looks like. You import it into After Effects. This is now going to sound really [laughs] You import it into After Effects and then you open up 30 to 40 different tabs and you spend hours [laughs] you know, going through YouTube tutorials.

You know, the other thing is that this kind of technical communication work and I'm a tech comm professor, so you also learn what sort of works as a screencast because there are a lot of good screencasts and a lot of bad ones. I'm sure I learned from 16-year-old kids about how to do different things in After Effects. I had ideas in my head, and then I went out and searched for how to do that. And I don't know that I relied too much on the official documentation from Adobe. Instead, I relied a lot on YouTube tutorials to show me and then played around. And there are some presets in After Effects.

[*cheerful m*usic fades in]

I didn't create the smoke by hand, but that smoke might have been available somewhere else, or as part of a preset inside After Effects that I can import. I think there are a lot of possibilities, you know when you think about how captioning should be, or could be, central to the different things that we're doing.

[cheerful music fades out]