



## Dr. Kate Miltner: "School's Out" Season 3: Episode 11

Welcome to Stayin' Alive In Technology, the series of conversations with Silicon Valley veterans touching on war stories from the past and practical advice for today. And now here's your host, Melinda Byerley, founding partner of Timeshare CMO.

Melinda Byerley:

Welcome back to another episode of Stayin' Alive in Tech. This week's guest is Dr. Kate Miltner. She is a TRAIN@Ed Postdoctoral Fellow at the Moray House School of Education and Sport, University of Edinburgh. This position, as she'd like us to know, is co-founded and co-funded by the European Research Council Horizon 2020 Marie Skłodowska-Curie Actions.

The reason I've invited Kate on this podcast is that she is an academic observer of the work that we do in tech, but she was one of us. For over a decade, she worked for a series of agencies including Saatchi and Saatchi, The Engine Group. She worked on clients in the CPG area like General Mills and Nestle. She worked in technology for Samsung, Telefonica. She worked for automotive companies like Renault and Coda Automotive and, as part of the agencies that she's worked with, she also worked in entertainment on 20th Century Fox, and in beauty for Estée Lauder.

Before she went to study us in tech, she was one of us. As you're going to hear from her directly, she started studying us as she started thinking about memes, which was sort of a joke at the time, the idea that anyone would actually study memes academically was considered sort of outlandish and out there, but she persevered, and as she went on through her career, she decided to study the issue of coding bootcamps, and that is what she is currently working on now.

Over the course of her three-year fellowship in Edinburgh, Dr. Miltner will be examining the experiences and outcomes for UK adults who attend digital skills academies, also known as coding bootcamps or coding schools, with a particular focus on issues of inclusion and belonging. The first element of her project consists of a UK-wide survey of graduates of digital skills academies with the aim of providing a comprehensive public-facing resource of student outcomes across a variety of programs.

The second element of her project involves an ethnography of a Scottish coding academy. Dr. Miltner also conducted an ethnography in an American coding school for adults for her doctoral research, and the Scottish ethnography will be part of a larger cross-national investigation of these organizations. If you don't know what a coding academy or a coding bootcamp is, you'll find out as I ask Dr. Miltner to explain it to us.

Dr. Miltner did get her PhD from the Annenberg School for Communication and Journalism at the University of Southern California. She holds her masters in media and communications with merit



from the London School of Economics and Political Science and has a bachelor's in English cum laude from Barnard College at Columbia.

She has held research appointments in the research department at Twitter and the social media collective at Microsoft Research New England. Dr. Miltner was also a 2018 joint fellow at the UC Berkeley Center for Technology, Society, and Policy and the UC Berkeley Center for Long-Term Cybersecurity. She was also a guest researcher at the Department of Media Studies at the University of Amsterdam from 2018-2019.

As I mentioned, before Dr. Miltner did her research, she was one of us, which makes her a rare academic to actually work in our field and approach her research with actual experience. I think you will very much enjoy hearing about her journey from working in an ad agency as an English graduate to being a PhD and studying issues on the very forefront of technology today.

Melinda Byerley:

Kate, welcome to the podcast.

Kate Miltner:

Thank you so much for having me, Melinda.

Melinda Byerley:

So, you're a little bit younger than some of our guests, but I'm always fascinated to ask when you became aware of technology, or if you can even remember the first time you touched a computer?

Kate Miltner:

Yeah. So, okay, this is really interesting. So, I first touched an Apple IIE. I believe that was the first computer and I was hooked from the beginning. So we had a media center in my elementary school, and this is one of the benefits of growing up in a well funded public school system. We just had a huge room filled with these computers. I'm 38 years old and I remember in this school I started when I was around five, so it was 1987, I think. And we would play Oregon Trail, Number Munchers, Lemonade Stand, all of the MECC games that were bundled with the Apple hardware, which I love that story. I won't go into that, but I just love the story of how MECC and Steve Jobs work with them. It sort of explained a lot of my childhood technology experiences.

Kate Miltner:

So that was the first time that I ever really touched a computer, but I didn't have a computer and so I would actually spend a lot of time in the computer labs after school. Like in middle school, I enjoyed hanging out after school in the computer lab because we didn't have a computer at home. But then I started high school and that was 1995, and my first computer was an IBM Aptiva. And we got AOL, and that was sort of when everything, I don't know, I was always interested in technology, always



interested in games. I had a Game Boy but not a Nintendo. Things that were digital really had an allure for me. And then when I got my own computer, that was really incredible because it sort of opened up my world. I created my own webpage in 1997; it was an X-Files fan page that is actually internet archived. But it's funny to go back and see my 14-year-old self every once in a while. So yeah-

Melinda Byerley:

X-Files never dies.

Kate Miltner:

It never dies. No, I was part of the X-Files web ring of the 90s. So, yeah. The first time I remember seeing the internet I was in seventh grade, so this was 1993. And it was science class and we had dial up in the classroom. And I'll never forget this, it took forever to load and then it was just this picture of a big green dinosaur that said "Welcome to the internet." And that was my introduction to the internet. I was like, wow, the internet! And I was kind of growing up in the era of the first dot.com explosion, the first internet, domestic internet adoption. And I think so I started college in 1999 and I graduated in 2003. And going to college was the first time I ever had high speed internet. We had TCP IP in our dorm rooms, but we also had ROLM phones. Do you remember ROLM phones? I don't know-

Melinda Byerley:

What are they?

Kate Miltner:

They're just kind of an internal network of phones where you just sort of pick up the phone and then you dial someone's room number and it would take you to their room. It wasn't a typical seven-digit number. So I went to-

Melinda Byerley:

Oh, yeah. I think we had those in my dorm. It was a phone system, yeah, you dial four digits or whatever.

Kate Miltner:

Yeah, exactly. So we had that, but then we also had high speed ethernet as well. So it was, yeah, I was still listening, in college I was listening to actual cassette mix tapes that I would record on my stereo that had an auxiliary input, so I would make cassette tapes of MP3s. So it was just this very weird moment in terms of what media people were using. I've been through it all a little bit, I think.

Melinda Byerley:



Yeah, you're mashing it up because I was out of college by that point. So, that's what you do in college. You're experimenting and what can I do with this? And so fascinating to get to it. And this is what I call my "niece question," because my niece is starting college this fall. So I'm always asking people for her benefit. How did you pick your major and how has it impacted the way you think about the world or your life? I have a theory that our undergraduate majors teach us a framework for thinking.

Kate Miltner:

Okay, well, I actually really had no idea what I was going to do when I got to college. I felt kind of paralyzed by the decision. And my dad gave me two very good pieces of advice for my college years. One was: don't stay up late studying, get up early before an exam because it'll be fresher in your brain. And then the second bit of guidance that he gave me, it was for your major. He was like, "Go through the course catalog and whatever department or whatever major has the number of courses that you're the most excited to take, that's your major." And he's like, "And if there's a second department that's the most interesting to you, then maybe that's your minor." Because I didn't really know like, oh God, what if I really am an anthropologist at heart? It didn't even occur to me because I had a traditional liberal arts education, so for me it was kind of like, well how do I get at my interests?

I thought I wanted to be a journalist when I was in college. I did some internships, I did an internship at ABC News, and I'd actually gotten an internship at New York Magazine and I was going to work with Taffy Brodesser-Akner. Which now I'm like, oh my God, that was really stupid. And I really, I realize now I was such an idiot. I was like, "oh, I don't know if I've got the time to do this." So they gave me the internship and then I emailed her and I was like, "yeah, I don't think I want to do this." And she was very rightfully angry. She was like, "we could have given this to somebody else, you're going to bail now, what is wrong with you?" And I just was so clueless that I was like, "yeah, I don't think I've got time to do this." And now I'm like, "wow, I could have interned for Taffy Brodesser-Akner."

Melinda Byerley:

You're not alone in that sense, you're not. I remember a call not long after the Apple app store launched and I had been working for eBay and they called and they said, would you like to come and figure out the Apple app store? And I was like, I didn't want to commute to Cupertino.

Kate Miltner:

Yeah. Well, that was kind of the thing. I was like, oh my gosh, I have to start before I'm back at school and that means I'm going to have to get on a six o'clock in the morning train from the suburbs to get into my internship. And I'm just really tired. And it's just like, what the hell?

Melinda Byerley:

What was I thinking?



Kate Miltner:

What was I thinking? Are you serious? I guess I was 19 and didn't really know the way the world worked, and was more concerned about sleep than career progression or figuring any of that stuff out. I guess I came to my vocation late. It was my late twenties before I figured out what it was that I really wanted to do and that, "I will do anything to pursue this career" kind of fire got lit underneath me. But in college I was like, I'm just really trying to figure out who I am and who I am involved sleeping really late during Christmas vacation. So yeah.

Melinda Byerley:

You actually led right into my next question, which was great, which is how, you've mentioned you're interning for ABC. And then as I was looking at your profile I realized you worked for ad agencies, you worked on enormous consumer brands. And so how was that, I was going to say it's less about sort of experience itself but your views on technology especially coming from what we see now, how did that change? How did your view on the world start to change as you went to work for these companies?

Kate Miltner:

So, I kind of stumbled into advertising, because have you ever seen or heard music from the musical Avenue Q?

Melinda Byerley:

Oh, of course.

Kate Miltner:

Okay.

Melinda Byerley:

Schadenfreude.

Kate Miltner:

Yeah. What do you do with a BA in English? It was 2003, the job market was terrible.

Melinda Byerley:

It's after 9/11.

Kate Miltner:

Yeah, I had done my internship at ABC and I just was like, I don't think this is the right fit for me. I wasn't a hard hitting journalist who was going to do anything to get the story. I'm not a very



confrontational person. I just think that for that kind of journalism you really have to be invested and I just, I wanted to tell the story but I didn't want to do it that way, I think in the end. And so I just, my roommate's cousin's friend was looking to hire a media planner and I was like, yeah, I'll work in advertising. I'm like, sure, whatever. I didn't even know what a media planner was, but I ended up getting hired for this entry-level thing. And I kind of knew from the beginning that advertising was probably going to be the thing that I did before I figured out what it was I really wanted to do. And I also did every possible job in advertising. So I was a media planner and then I worked in account management and then I was in strategic planning. And then I was on the very early end of social media strategy and social media management.

Kate Miltner:

And one of the things I realized is that for me every single position in advertising was kind of the same. You were doing slightly different work, but you were still doing client service stuff, which I realized was just not really my jam. But how I ended up stumbling into this, into my current career was I was a blogger in 2005. Actually, I was kind of bored at work and started, I was emailing my friends all these links from the internet and stuff like that all the time. And I realized like maybe I should just stop spamming my friends all day long and start a blog. And it was very much the era of observational humor. I lived in New York, I was in my early twenties and it was sort of like, I'm going to write stories about myself when I go into these parties. And like, isn't it funny, I tripped on the subway. I look back at the archives of that blog, which is no longer on the internet and I'm like, it's just very cringe-worthy to see what I was putting out in public.

Kate Miltner:

But it was also the era of Gawker and those gossip, like New York, new media gossip blogs. And I ended up getting linked in Gawker's blogorrhea section kind of frequently. And I ended up getting invited to a party at Gawker which was like, honestly one of the best days of my 25-year-old life. I literally screamed and my roommate was like, oh my God, are you dead? What happened to you? And I was like, I got invited to a party at Gawker, oh my God. Because I was just reading all of this stuff and I was trying to emulate it and I just was like, oh my God, this is just the height of cool. So what ended up happening was they ended up hiring me as a second string party photographer for their feature team party crash.

Kate Miltner:

So their first photographer was this guy named Nicola Tamindzic, who's an incredible artist, an incredible photographer. He's still an artist, his work is amazing. And then there was me who didn't really know how to use digital SLR, but they were trying to increase, they would give me \$50 bucks for every party. I had a DSLR, which I was sort of figuring out how to use it. And then for the events that weren't worth Nicola's time they would send me and see if they could get a feature out of it. And so it was during that time that I ended up getting into the whole Silicon Alley social scene. And it was a really interesting time because it was very much a mix of, I don't know if you watch the Real Housewives of New York City at all.

Melinda Byerley:



I haven't.

Kate Miltner:

I started watching really old episodes because I'm way behind on that. And I was watching like the early seasons and I was like, oh my God, this was the time that I was going to parties in New York. And it's again a very, very transitional time because I would go to parties that were thrown by Page Six and then I would also go to parties that had like David Karp from Tumblr and all of that stuff. So it was kind of I would occasionally hang out with David Karp from Tumblr. And I went to South by Southwest in 2009 and I was hanging out with the Gawker crew and stuff like that. And so to me that was the most exciting, thrilling thing ever. The people in that sort of social world had no idea that I had a day job. They just thought I was this girl who was trying to become a photographer, but I would work at Saatchi and Saatchi by day and then at night go to these parties with my camera.

Melinda Byerley:

I want this novel by the way, whenever you feel like it, this needs to be a novel, I can't wait.

Kate Miltner:

Yeah. Well, I met Alice Marwick, who's an incredible scholar of social media. Have you ever read her book Status Update?

Melinda Byerley:

I haven't.

Kate Miltner:

Oh, you should absolutely read that book.

Melinda Byerley:

We'll put a link to it in the show notes too.

Kate Miltner:

Yeah. Alice is amazing. And I actually met Alice through her husband who was one of the cofounders of Foursquare, and I was a beta tester for Foursquare because I was at the parties with all these people and stuff like that. So it's just very interesting to see where a lot of the people who I know from that time where they've gone on to, like Choire Sicha, who I didn't know personally but we would be at the same events and now he's at the New York Times, and I knew Jenna Wortham back in the day. And so it's like all of these people who've gone on to have these storied careers, we were all kind of in our 20s and 30s together, hanging out on the lower East side of Manhattan. That I was sort of, I was like, wow, that's really cool. And then in my late twenties I was like, well, I need to leave New York. If I never leave New York now, then I'm just going to live here my whole life.



Kate Miltner:

And I had gotten it into my head that I wanted to move to London, and I was like, I'm just going to get a work visa and work as a bartender because clearly I knew how the world worked and I knew how visas in the United Kingdom worked. And so that didn't end up being a thing. And then I realized, oh, there are some very interesting, like the Oxford Internet Institute had been around for a few years at that point. And the London School of Economics had a Media and Communications department where a lot of people were doing internet stuff. And I was like, you mean I can study the internet?

Melinda Byerley:

It's a thing, I can study the internet?

Kate Miltner:

Yeah. Because coming from a liberal arts background, that's not...

Melinda Byerley:

Well, it hadn't evolved yet. Computer science didn't exist as a major when I was in college, it just didn't exist.

Kate Miltner:

Yeah. And I think a lot of the interesting work. I'd never went to an institution that had a communication department. I think if I had, that's probably where I would have landed instead of in an English department. But so yeah, so I ended up going to the London School of Economics to do my master's, which I thought like, well, if I do this then I can come back and work in advertising and be a social media strategist.

Kate Miltner:

And then I ended up getting a job as a social media strategist anyway, and almost didn't go to this master's. But then I broke up with my boyfriend and I had to change my life. So it's sort of like, well, okay, I'm really going to go to London because the life that I was trying to create didn't really work out for me the way that I thought. And I'm so grateful that things worked out that way because I have a very different life than I think I would have had otherwise. It's kind of like my "sliding doors" moment. I really think of my life in terms of before London, before the LSE and after the LSE because it was like my life before and like my life as I know it now.

Melinda Byerley:

Oh, I love that. I love how you just sort of answer the questions before I even ask them. Maybe that's the problem with interviewing storytellers. They know where you're going. And so, I want to talk





about memes for a second because we're going to get into the learn to code, which is the reason we're here. But I got to stop for a moment and talk to you about memes.

Kate Miltner:

Yes.

Melinda Byerley:

So, I think most of the people that are familiar with this podcast will know what a meme is. You have a very special story to tell about memes and I would like you to tell it.

Kate Miltner:

Sure. So, I was one of the first meme scholars in the world, not the first, but I was definitely one of the first five to 10 for sure.

Melinda Byerley:

What is a meme scholar for those who don't know?

Kate Miltner:

A meme scholar. So, I studied memes from an academic perspective. And to circle back to your question about being an English major and how that sort of influences my current trajectory and my current work, it sort of when you're an English major you really learn how to analyze text incredibly well. And I think that has served me very well in my current position and in my career as an academic this far. Because I took this class about, it was an audience research class with Sonia Livingstone, who's an incredible scholar in just everything internet and everything media really, she's got an Order of the British Empire for the scholarly work that she's done.

Kate Miltner:

And I was in this class with her and she said something that ended up sort of changing the trajectory of my academic interests, which was: "When you're trying to sort of suss out the significance of the text, you don't necessarily look at the text itself, but you can look at the reaction to the text." So this whole idea of high culture, low culture, trash versus prestige, that these distinctions are kind of false and that, actually, the significance of a media text or something to that effect is often seen in how people are reacting to it. So this made me think about memes, right? People didn't really, meme culture had kicked off at that point. It was 2010 when I was in my program, but there weren't that many people who were studying memes at that time.

Kate Miltner:

So, I had been introduced by one of my LSE professors to a woman named Limor Shifman, who is now arguably the world's foremost meme scholar. She was at the Oxford Internet Institute and



we're emailing back and forth. And so I decided to do my master's dissertation as they call it in the UK, like what they would call a master's thesis in the US on Lolcats. And I picked Lolcats because they were a meme that had been popular for about five years. And I was like, well, most memes are sort of like flash in the pan and then they disappear but there's a longevity to this. So, what Sonia had said in class, said to me, indicated to me that there was something happening here, right? So there's this meme that's still remaining popular when most memes are not. What is that about basically? I'm not to sound all Seinfeldian, but, what's up with the Lolcats? That was what I was doing.

Melinda Byerley:

But isn't that what all academic research is, like what's up with the nuclear fusion?

Kate Miltner:

Yeah, exactly. So it was like, what's up with the lolcats? So I did an audience study of people who were interested in Lolcats. And it turns out that there were distinct social groups that were interested in Lolcats. And that really, one of the reasons that it was so popular was because there were different audiences that were sort of using this same meme to their own ends, right? It had emotional resonance to different groups. And the two most significant groups, at least in my research, were these older ladies who refer to themselves as the cheese friends. And they were mostly older women who would hang out in the comment section of I Can Has Cheezburger all day. And they just really liked cats and they thought that Lolcats were really gentle and a nice corner of the internet. And they had their own blog called the Cheese Town Crier, and they spoke fluent Lol speak, which was the language that the memes were captioned in.

Melinda Byerley:

Based on cat and everything else.

Kate Miltner:

Yeah. So, I Can Has Cheezburger it's like the cats were speaking to each other. And then the other group was the 4chan, Reddit, mostly dudes. And they were the ones who were like, this is our meme and now my mom is sending it to me. And that is really gross and uncool. And one of the things that...the larger lesson to learn from the Lolcat situation was that the Lolcats was an example of this larger battle of who gets to be part of internet culture and who gets to own the internet. You know what I mean?

Melinda Byerley:

Yes.

Kate Miltner:

It was a time where there was a lot of territory marking that was kind of happening, right?



Melinda Byerley:

Which is kind of ironic since we're talking about cats, but yes.

Kate Miltner:

Yes. Well, that's the thing. It's, again, don't look at the text, which looks kind of silly and it's pictures of cats with misspelled captions, right? What could possibly be significant about that? But actually what's significant about things like memes is even though the texts themselves may seem silly the way that people are using them, and the way that people connect with them and the things that people do with those texts is what's important. And now no one would ever say that memes are stupid and that they're not worth studying because the relationship between memes and politics and electoral politics in particular, it's taken off. But there was those of us who were doing this work, we're mocked in the beginning. It became actual news that I had done this dissertation, this 98-page dissertation on Lolcats.

Kate Miltner:

And so I got written up in Time Magazine and in, I think it was the Huffington Post and the Atlantic and all of this stuff. Which was great, because it gave exposure to my work, but also there were other outlets that really made fun of me, including Gawker, like Adrian Chen. I guess because nobody really knew who I was. I think the title of the article was "This woman doing a master's in Lolcats will be richer than you." And I can say for a fact that is absolutely not true, and that if anybody is looking for consulting work, I am available.

Melinda Byerley:

Not a damn thing wrong with that.

Kate Miltner:

Yeah, I got student loans, my friends, I got lots of student loans. So yeah, so that was also, again, an interesting time to jump to this field. Then yeah, now meme study is totally a thing and lots of people are doing this work now.

Melinda Byerley:

And I'm fascinated, I wondered if you'd been a guy studying memes if the reaction would have been the same?

Kate Miltner:

Well, I don't know. So, a good friend of mine, his name is Ryan Milner, which is very confusing, Milner and Miltner, two meme scholars. Yeah. So our last names are one letter different. So Ryan Milner, who's based at the College of Charleston, he has a fantastic book called The World Made Meme, which is out at MIT press. And he did his PhD thesis on memes. I don't know, his work wasn't in the



press as much as this like, oh my God, well, memes are a thing. But my friend Whitney Phillips, who was studying 4chan around the same time, she got a lot of flack, I would say.

Melinda Byerley:

To say the least if she was still in 4chan.

Kate Miltner:

Yeah. So, again, I think being on the forefront of something, when you're studying things that are trivialized, being at the forefront of that kind of field can be challenging because people think like, oh God, what a perfect example of the Lib-tard University wasting money.

Melinda Byerley:

Underwater basket weaving.

Kate Miltner:

Underwater basket weaving, yes. So that's changed now.

Melinda Byerley:

As we've seen the impact.

Kate Miltner:

Yeah, 10 years later. But I think at the time it was sort of like, what are you people doing? This is so silly. What are you even doing?

Melinda Byerley:

And I think it's an important point about history. You often can only connect the dots in hindsight as people say, Steve Jobs famously said. And you never know. If you're a young person today you don't know if the people that you're growing up with are going to turn out to be super famous or super powerful, but some of them will. And you also don't know how the small thing you're doing today will have a ripple effect in 20 or 30 or 50 years. And so, I think there's a great lesson that you're sharing, which is you've got to follow what you are interested in, where it leads because nobody knows, really, where some things are going to go.

Kate Miltner:

No. If you told me in 2009 that a decade later I'd have a PhD and my life's work would be studying digitally related things like studying technology, I would've been like, wait, what? Okay, what, seriously? All right.

Melinda Byerley:



I'm not going to sleep in every day?

Kate Miltner:

I know. Well, if you told 19 year old me that was the case I would've just been like, yeah. Okay, sure. Although one of my best friends from college, when I finally got my PhD, she was like, I knew from the beginning that you were going to be a doctor. So don't act all surprised.

Melinda Byerley:

And don't give up on your kids if they're sleeping in late.

Kate Miltner:

Right. No.

Melinda Byerley:

Hi, this is Melinda here, your host for Stayin' Alive In Tech. We are the only podcast to feature long form, first-person oral histories of Silicon Valley. We're now heard in over 60 countries and our average listening time is over 45 minutes. If you're enjoying this episode, we could use your support. You could post a review wherever you get your podcasts about this episode. You could share this episode with a friend or talk about it on social media. You can sponsor us. But no matter what you do, you can help us find more guests and find more people to hear their stories. Thanks again for listening.

Melinda Byerley:

So let's get into your current work. I think I want you to talk about the learn to code movement for people who don't know what it is. First, what is the learn to code movement? And how was your attention drawn to it?

Kate Miltner:

Okay. So, I had been studying digital cultural artifacts for, I'd say, I don't know, five to seven years. And I started my PhD program thinking that I would continue in the same vein that I had started with, which is sort of with memes. I had a piece come out yesterday in *New Media and Society*, which is a journal about the racialization of the original emoji set in Unicode. So that's like a different project that I had been working on for a while. I published on animated gifs, sort of theorizing the significance of animated gifs. So sort of online cultural artifacts, that's what I thought that I would be doing for my dissertation or my thesis. But then I had an experience the summer after my first year where I ended up being a research intern at Twitter.

Kate Miltner:

And that changed the direction of things for me because I just became very interested in the cultures, the technological or the technical cultures where the world that digital cultures are made from. So I was interested in Lolcats. Like, okay, we've got the 4chan stuff and I'd been interested in internet culture and sort of seeing these threads of like, oh, they've got some issues with women. Like, oh, they've got some issues with people of color. Like, oh, this is interesting. I'm a feminist scholar for sure. And I also I wouldn't say that I am a critical race theorist, but that's a theoretical framework that I draw on in my work. And so, I was like, okay, so if we're going to go up the chain a little bit, if we're not going to look at the text, but we're going to look at the cultural context that's sort of like creating these cultures, where is it all coming from?

Kate Miltner:

So I started to ask the question, what does the culture of Silicon Valley have to do with sort of the reproduction of inequalities broadly read, right? Because I was seeing that sort of like the technical cultures that were present in a lot of the sort of Gamergate and stuff and a lot of the online harassment things that were happening around 2015, I was able to trace that, not just from the 4chan, but also back historically, right? Thinking about technical cultures and how they are sort of white male dominated and all of that. And then I read a bunch of books about the origins of computing.

Kate Miltner:

So I know you've had Mar Hicks on here and I love her work so much. Nathan Ensmenger's incredible book, *The Computer Boys Take Over*. It just sort of talks about like, I didn't know that computing was originally a feminized profession and that it was masculinized because of power, basically the transfer of power into software engineers' hands kind of thing. So I started thinking about the broader context of "where do these cultures come from and what is the impact on the sort of products that people are using? How do we see the impact of Silicon Valley culture on the, not the end user necessarily, but the products that end users are engaging with?"

Melinda Byerley:

Yeah, and how they influence. Yeah. It'd be one thing if this culture was what it was and the nerds, I call them nerds or the geeks or whatever, that was their culture, but when they build tools that everyone else uses, and I mean, and Mar's example of AI is so apparent, right, that the bias that you carry, regardless of what that bias is, has to be translated or it will be translated into the software it applies. So I'm glad you called out to it. So yes, I'm with you so far.

Kate Miltner:

Right. So I was interested in, I had also started to notice, well, I had been in the cultural soup of coding. The learn to code movement, which I call the coding fetish. And I'll talk about that in a minute. So, I was at the same South by Southwest where Douglas Rushkoff gave his first "Program or be programmed" speech. And at the time it was considered incredibly reactionary. And this is something that 10 years later we forget that the whole idea that everyone should learn to code when he first came out with it was sort of like, what, seriously? So Code Academy came out of Y



Combinator and was a big part of the democratization of coding. But that came out in 2011, 2012, but only two years before, someone else, another group of people had suggested a similar thing. And Y Combinator was like, no, no thank you. We don't want to do that.

Kate Miltner:

So, this moment of 2010 to 2011 was really the moment where this whole idea of "everyone should learn to code" started. I have a whole chapter in my dissertation that sort of traces the origins of where did this obsession with coding come from. And part of it is connected to entrepreneurship and part of it is connected to Code Academy and code.org, and Girls Who Code, these very high profile coding organizations that pushed coding into the forefront of discourse. It's also about press coverage of these things and also about the imaginary of Silicon Valley and the whole idea that learning to code will get you \$100,000, a six figure job and you'll be able to like get into the middle class.

Kate Miltner:

The Obama administration was really big on pushing that narrative. So it was around that I was paying attention to this whole idea that coding is the thing that you need to do. And I remember there was someone who was in my PhD program who was a couple of years ahead of me and he said to me on the first week: "In order to do the kind of research that you really want to do, you really need to learn to code." And I was like, "Oh, do I need to tell him to code?" And I was just thinking to myself like, okay, so first of all, again, what's with coding being this total obsession?

Kate Miltner:

Why is everybody looking at coding as the solution for all of these social issues? Like social mobility and protection against an automated future and addressing all of the "diversity" problems that Silicon Valley has, right? Like just toss coding at a problem and Tada! Basically it was looked at in this very solutionist way. And I was like, okay, so we have these claims about coding, we have these claims that these schools are basically saying, "hello, anybody, literally anybody, but mostly people who are struggling in some form or other, listen, if you spend anywhere from three to nine months learning to code, you will work at Google or Facebook and you will be—"

Melinda Byerley:

Rich or relatively rich.

Kate Miltner:

Yes. So first of all, nobody's doing any research into this. But also I was interested in, I was like, okay, if they're trying to train people, a part of training is also, you're being socialized in a particular way. And I was very curious to understand, within these coding schools what's the cultural transfer that's happening here? What's the, they call it, one word for this is enculturation, where you're basically adapting to a particular culture or a particular culture is sort of being foisted upon you.



Melinda Byerley:

You're being indoctrinated. It's like if you've ever dated a lawyer or known people who go through law school, it changes their brain. It changes the way they look at the world and the way they argue even with their friends and family.

Kate Miltner:

Yeah. So, I was interested in that. And I was like, well, this is also a big research gap because nobody's getting into these schools and doing ethnographic research.

Melinda Byerley:

Did they actually get rich? Is that what you mean by that too? Were they actually successful?

Kate Miltner:

Yeah. Well, what actually is happening in these schools, right? What are the experiences of the people who are there? Because if you look at the...so I did 10 years of discourse analysis. So 10 years of press coverage about coding and coding schools starting from, okay, so maybe it's not 10 years. So basically from 2010 until 2019, so almost 10 years. So about a decade of coverage. And the themes in the press were very distinct and in the end the discourse was very bifurcated, right? On one side you have coding is going to save everything and coding schools are going to have, are basically the Horatio Alger factory. Anyone who is making \$20,000 a year can go through one of these things and then come out the other end making \$100,000 a year and their life will be changed.

Kate Miltner:

So that was one half of it. And then the other half of it was coding, having everyone learn to code is basically a ploy of Silicon Valley trying to depress wages and also coding schools are terrible. And they just destroy their students and everything is horrible.

So I was like, okay, so we've got these two polar opposites. So the truth has to be somewhere in the middle. It can't just be black on one side and white on the other. So that's where the research project came from. What is this discourse about coding? How do we put it into historical context? Have we seen this before? The answer is yes. And then, how does this discourse play out in day to day life for people who are in these schools? Did they join these schools because they believed what the discourse was saying? Why are people enrolling? Who's enrolling? What's the outcome? All of that stuff, what's happening in the school? So that was my doctoral project and it was definitely interesting.

Melinda Byerley:

So, let's sum up your entire dissertation in just a few minutes, very realistic goal here. Thinking about it, so you said it had happened before. So first let me ask you where has it happened before? That'll be interesting.





Kate Miltner:

In the late 1960s to early 1970s, it was the same time situation that's happening with coding schools now, basically happened with these things called EDP schools, electronic data processing schools. And the discourse was very similar, so it was about computer programming. So computer programming will save you from drudgery. It doesn't matter if you are a woman or if you are a person of color, it doesn't matter who you are, you just learn the skill and you'll get the job, that kind of thing, right? Which is very much the discourse that's happening now.

Melinda Byerley:

I'm fascinated because that's exactly how my parents, my stepfather went out and bought me a Timex Sinclair ZX80 because, and I started learning to code in the backyard, in the garage in basic, because my parents truly believed. My dad was an auto worker and my mother worked as a nurse and they said these jobs are going to be automated in the future and if you want to have a job, you need to know how to use computers. And so I'm absolutely fascinated. I didn't even know what an EDP was, but I never connected the mindset I was raised in with coding school. Fascinating.

Kate Miltner:

Yeah. It's kind of uncanny. If you look at articles from *The New York Times* in 1968, there are some anachronisms but the same claims are being recirculated from that time now. And honestly, those same claims, I argue, come up every time there is a major push in technology, right? So it came up when computers were being used a lot in business context. So the late 1960s to early 70s computing in the workplace was happening a lot. Then you had in the 80s, you had the PC revolution then with the dot.com craze, the same thing. And then now it's sort of like social media. Yeah. All of that stuff.

Melinda Byerley:

So, my parents were right?

Kate Miltner:

Yeah, they were.

Melinda Byerley:

Because I do lead a better life with student loans, but I lead a better life.

Kate Miltner:

Yeah.

Melinda Byerley:

Ostensibly, depending on how you define better.



Kate Miltner:

Yeah.

Melinda Byerley:

The way most parents would define better, I think I lead a better life. But, so why is this a bad thing? What's the downside here? Because if a sample size of one...is it doing what it said it would do? What's dangerous about it?

Kate Miltner:

It's only doing what it said it would do for certain types of people.

Melinda Byerley:

Okay.

Kate Miltner:

So that's the danger, right? It's basically the very, very long story short is that the types of people who would probably succeed in the tech industry are the ones who tend to do better in these coding schools. So just here's an example. In order to devote your time to a super intensive three to six month program where they expect you to be, first of all, not working most of the time, onsite up to 12 hours a day, that requires resources. Just in terms of that time, you have to not have major family obligations, you have to have enough money that you can stop working. And on top of this the expectation often is, you go out and you go to meetups and you're networking, and you're on Twitter, and you're blogging, right?

Kate Miltner:

So all of this stuff is just very time intensive and that alone requires privilege, right? Just the ability to devote that amount of time to do those things. So, that's a major thing. In some coding schools, I've heard, I only went to one and so I can't make a generalization about that, but the students who had the best experience at the coding school where I spent nine months were the students who, to say this quite abruptly, they drank the Kool-Aid. They believed in meritocracy, they believed in colorblind meritocracy. They believed in if you just work hard enough and you put in enough time then you will get what you deserve, that kind of stuff. Like the Silicon Valley ideology is very much perpetuated in this school. And the students who pushed against that were not, it was not a very comfortable place for them to be.

Melinda Byerley:

They were haters or they were malcontents.

Kate Miltner:



Yeah. They didn't work hard enough or they weren't working the way that it, yeah, exactly. And there were other things that were happening at the school in terms of the way the school was structured. That's a subject for a longer conversation. But I mean, the other thing is: as most historians of technology and science and technology scholars will tell you, skill is socially constructed. Just because you give someone a skill does not mean that they're necessarily going to be hired later on. And even if they are hired, it doesn't mean that they're going to have a good time at that job. So, the coding school where I spent time was basically trying to produce their version of, their idealized version of a Silicon Valley tech worker. And that was a very specific subject position to speak academically.

Melinda Byerley:

They're trying to get people hired at Google or Facebook at the time or whatever. There was a mold. They were almost creating a product, it sounds like.

Kate Miltner:

Well, right, they kind of were, right. So they were trying to, again, as you said, mold people to a specific way of being, right? A certain way of thinking, a certain way of behaving. I can't give away too many details at the moment of the specific things that the school did, because I don't necessarily want to out them because they did let me come and hang out with them.

Melinda Byerley:

Oh, right. That's not the point, the point is not to shame this school or to embarrass them, but to talk about the system overall. So, totally fair.

Kate Miltner:

Yeah. We could have a whole other conversation about the whole coding school stuff. And one of the things that I'm trying to do with my research in Scotland is figure out, okay, so going to coding school in San Francisco in the heart of where so many startups and tech companies are, and where the culture of San Francisco has become tech culture, right? That's one thing. So what happens when you live in Scotland and you perhaps live up in the Highlands and you're going to coding school, what are the value systems that are being encouraged there? Is it that these schools are taking the Silicon Valley value system wholesale and trying to plop it down into the Highlands of Scotland? And if so, what happens there, right? So I'm trying to figure out what is happening at these coding schools, not just in the US, but internationally. And I know that I'm only going to one school.

Kate Miltner:

I've been at one school in the US and I might be at a couple in Scotland. And so this isn't generalizable the way that you would think about a quantitative study being generalizable, but it's a deep dive case study on the social dynamics that are happening in these places. And no, is it every single coding school? Maybe not. But I did another podcast and I was talking about my research and there were a couple of people who emailed me and they were like, "Thanks for saying what you did



about coding school. That was my experience, too." So people are coming out of the woodwork and emailing me and being like, "Yeah, so what you said about it not being the same everybody, and that there was favoritism, and that the ISAs were not the most, the income share agreements were kind of predatory..." People who didn't go to the same coding school where I spend time were coming out and saying, "This is also the case for me."

Melinda Byerley:

There's a there there, that's why we study it. Nobody should be afraid of it because that's why we study it.

Kate Miltner:

Right. And I am planning on doing large scale surveys to ask to do detailed surveys of people in the UK and hopefully in the US as well who finished these programs and sort of asking them, "Who were you before you went into the program? What program did you do? What did you learn? How did you finish? If you finished, did you get a job? And if you got a job, how long did it take you to get the job? What kind of job did you get? Did it match your expectations going in?" All of this stuff, right. And I'm not trying to make the argument coding schools are bad; coding schools work incredibly well for some people. But the question is who, right? And so far what I've seen is the people who do well in coding school would probably have done well anyway. Do you know what I mean? I think the people who-

Melinda Byerley:

Sort of like what they say about Harvard grads, right? It was Malcolm Gladwell. I remember reading when he quoted the survey that said that people who had gotten into Harvard but didn't attend, when they were tracked over their life, there was no difference in their success, if you will, whatever the measures of success were in the study, versus people who had gotten into Harvard and then attended. The qualities that made you likely to be accepted were more important than the education itself.

Kate Miltner:

Yeah. And I think it's definitely the case that there were plenty of students at the coding school where I did my research who were able to get a foot in the door because of their attendance at the coding school. But a lot of them were like, "This is not what I expected." And I had a really difficult time emotionally going through this. It's not just about the outcomes, it's about people's experiences as well, right? And I think that this is a larger issue when we're thinking about Silicon Valley companies, thinking about diversity statistics and thinking about how little that really tells us about the experiences of people who are not white or Asian men, right?

Kate Miltner:

What are the experiences of people who do not fall into those social categories within these organizations? And if you look at some of the research that's coming out of The Kapor Center, for



example, the answer is it's pretty not great for a lot of them, especially if they're in technical roles. And so the fact that I was seeing some of the same patterns that are reported on within Silicon Valley companies, the fact that that's happening in an educational space that's supposed to be preparing people to go to these companies and they're billing themselves as like, we're the ones that are going to change the ratio, we're the ones who are going to get the people of color and the women in the pipeline. We're going to get underrepresented minorities skilled up so that they can take these, all of these 500,000 jobs that are unfilled.

Kate Miltner:

That completely negates the fact that hiring managers are often looking for a very specific person and, or a specific type of person or with a specific skill set. And that's often not the people who are coming out of these schools unless they have really strong CVs and just needed a skill boost, right? And those are the people that bootcamps were built for to begin with. I'm not entirely sure where we got the idea that if you take a complete novice and give them 12 weeks of coding instruction, they're going to be able to be professional software engineers; that just doesn't seem realistic.

Melinda Byerley:

But even in colleges you talk about socializing, just today as we're recording this episode, we're releasing April Wensel's podcast. And she is talking about Compassionate Coding. And she was a computer science major. She has a bachelor's degree in computer science. And even she says that she was not taught how to work as a software engineer. So, once she got educated, she still had to learn the day to day life of a coder, how you actually do code in the real world. How do you work with people's agile, scrum, all of that. Still the socializing had to happen even once the theory was in place.

Kate Miltner:

Sure. And actually, a lot of these coding schools are taking that experience that people have in undergraduate computer science programs and saying, "Yeah, so we're actually teaching you real world coding. We're going to make you job-ready on day one. We're not going to teach you all that theory, we're going to give you hands-on experience and you're going to go into that job day one knowing exactly what to do." And there were some people from the school who were sort of held up as examples, these shining examples of "got hired at Apple, got hired at Tesla, got hired at Facebook," whatever. And the hiring manager came back to the coding school and asked for more people like this person because they were attributing, they were like, well, we really like what's coming out of this school.

Kate Miltner:

But then there are only so many people who are just like the person that you hired, right? So it's not like you can mass produce really good software engineers. And I think that's what's happening at these schools. It's like there's an attempt to mass produce, to do this mass up-skilling when it doesn't really work like that. And so, my concern is that a lot of people are believing the hype and they're placing their faith and their money and their time and in many cases their futures in the



hands of these institutions who are largely unproven. A lot of the time they're not educators, they're software engineers who are coming up with pedagogical approaches that they think would have been helpful for them. But there's a reason that there is a lot of research into education and the best ways to teach people things.

Melinda Byerley:

That's why we have accreditation rules.

Kate Miltner:

Yeah, exactly. And also even when these places are accredited, the stories that are coming out of some of these places are still not that great.

Melinda Byerley:

Without naming names, I do have a question, though.

Kate Miltner:

Sure.

Melinda Byerley:

There are obviously coding schools and coding movements that are specifically not addressing... They're sort of by name or by design targeted towards women or people of color. Is early research suggesting that those that might potentially have better outcomes? Is it too soon to say? Are you cautiously optimistic?

Kate Miltner:

I couldn't say because, here's a huge problem Melinda. There are so few people doing the type of... actually I don't know, I could be wrong. There could be someone out there doing this kind of research, doing in depth ethnographic work at these types of coding schools. And if you are out there, please get in touch with me, because we should talk. Yeah, that would be fantastic.

But as far as I am aware, and I am trying to keep an eye on this kind of research, there was one paper from the University of Washington that interviewed bootcamp attendees. And the people who conducted that research were computer scientists, so they weren't coming at it from a critical theory frame. It was a good interview survey, but it wasn't getting into the longer term dynamics that were happening within one particular school. But some of the stuff that was reported in that piece that people are very stressed out or overtired, they're worried about money, that definitely was the case in my research. I don't know if the outcomes from say a Hackbright Academy or a Hack Reactor are better or different from the place where I ended up spending my research.

Melinda Byerley:



We just don't know yet.

Kate Miltner:

Yeah. We don't know. And that's part of what I'm trying to do is get some research because there is no real legitimate research out there on these organizations. They kind of release their own data, which numbers can tell you literally anything.

Melinda Byerley:

As an analyst, I can second that.

Kate Miltner:

Yeah, exactly. And there's one place called Course Report, which is sort of meant to be an industry watchdog. But I know for a fact that the school where I did my research, they were asking students to go and put positive reviews on Course Report. This is not...

Melinda Byerley:

This is Yelp essentially.

Kate Miltner:

Yeah, it's Yelp, right? It's not methodologically sound statistical research. This is totally lacking. And it's something that I hope to do in the coming years and it's definitely something that I'll be, like in the US, and it's definitely something that I'll be doing in the UK. Because really, the reason I want this research out there is so that people can make informed decisions about what would be the right path for them. If they're going to be signing up for 13, 18, 17% of their pretax income for X number of years to attend a program that wasn't really something that helped them in the end, then they need to know that. There needs to be wide-scale, I don't know, broad research into with a large sample size.

Melinda Byerley:

We put more research into a car, we have more formation into a car. And this is time which you can never get back, and it's critical.

Kate Miltner:

And it's people's money and it's their hopes. Historically, what we learned from the EDP fiasco is that a lot of those schools shut down. And some people got jobs, but a lot of people ended up being hoodwinked. The news now has a lot of stories of various coding schools being shut down or fined. Like in California, the Bureau of Post-Secondary Education is constantly finding and shutting down California-based schools that are coding schools. And then in New York, Flatiron School was fined



\$375,000 for false advertising. I would like to believe that the people who are running these schools are just inexperienced and not bad actors.

Kate Miltner:

But I think in the end it doesn't really matter whether they're well intentioned or not, what really matters is the impact that it has on people's lives. And the people who ran the school where I did my research were very well-intentioned people. They really did believe that they were making a difference, or at least that's what they said. That was they were always saying that we care about our students and we care about this and we're trying to change the world and all of that stuff. But then when people would complain, they would look at them as...anybody who complained was with someone who just didn't get it, right?

Melinda Byerley:

They couldn't hack it.

Kate Miltner:

Yeah, it wasn't even that they couldn't hack it, although that was sometimes the issue, it was that they just didn't really understand either the program or what the people who are running the school were attempting to do. So it's not that the people who ran my coding school were bad people, it's just that their belief system didn't really allow them to be flexible enough to accommodate everybody in the school. Running a school is really hard and you have people from all different walks of life coming into your school with a variety of needs and a variety of backgrounds and they're all supposed to learn the same thing?

Kate Miltner:

Obviously, that's a recipe for, if not disaster, then quite a lot of complications. A lot of these schools like to say that higher education is broken and that they're the solution, but I think they're running into issues that higher education institutions have figured out because they've had to over the course of hundreds of years. And I'm not saying that traditional university education is a-okay, obviously there are problems there, but I don't think that three to nine months of a bootcamp run by a bunch of former software engineers who don't know anything about running a school is exactly the solution that we need, if that makes sense.

Melinda Byerley:

It does. And I think it's a great place to start to wrap up our conversation. I love to ask, as we sort of, first of all, I get to be one of the first podcasts people to greet you with Dr. Miltner.

Kate Miltner:

Oh, it is very exciting. Thank you.





Melinda Byerley:

Just get to say that, I like the sound of it. With all that's going on right now, and it's a dark time, it feels like a dark time. It's hard to know as you said, how much we're being influenced by media or...but it feels dark. What gives you hope? What gives you optimism in the work that you do?

Kate Miltner:

So, one of the things that really excites me is the number of really smart and passionate people who recognize the challenges that we face within the tech space, who are really trying to come together and work to address this. I think that now I'm seeing a lot of interdisciplinary work. I see a lot of computer scientists recognizing that they need the social scientists and people in the humanities to try and help address the problems that we have, try and prevent problems going forward, and to try and imagine different or better futures. I think you go on Twitter and it just seems like everybody's screaming at each other all the time. But I think one of the things that the ACM Fairness and Accountability, the FAcT Conference, the Fairness, Accountability, and Transparency Conference is happening right now.

Kate Miltner:

It is an association of computing machinery conference, but so many people that I know who are critical scholars, social scientists, communication scholars, science and technology studies people, they're at that conference. I'm hoping that all of these people coming together will end up making things possibly okay. I feel like if you've got so many people, so many smart people who recognize that there are issues, who are trying to come together to solve them, that hopefully that means something. I can't believe that all of this work that so many people are doing is all for naught. I don't know, I hope that it isn't.

Melinda Byerley:

With that, I thank you so much for joining us and I hope you'll come back and talk about your research as it evolves, because I think this is an area our listeners are going to want to hear more about. It affects us and I want to see where it goes.

Kate Miltner:

Yeah. Well, thank you so much Melinda. I'd love to come back, so you just let me know when.

Speaker 1:

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