Special Edition: Celebrating Ada Lovelace Day with Chris Cooper-Bland and Suw Charman-Anderson – Part 1

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BRADLEY HOWARD (BH): Hello, I'm Bradley Howard and I'm very pleased to be bringing you this special edition of Tech Reimagined. The second Tuesday of every October marks a day created to celebrate the achievements of women in science, technology, engineering and mathematics, created in memory of Ada Lovelace. So who exactly was Ada Lovelace? She was born in 1815 as Augusta Ada King, daughter of Lord Byron, the poet, who left Ada when she was only a month old.

Perhaps out of pragmatism, Ada's mother encouraged her to study mathematics. In 1843 Ada published what would become the first ever algorithm for Charles Babbage's analytical engine, which is known today as the blueprint of the first computer. A hundred and fifty years later Ada became known as the world's first programmer. This podcast is proudly honouring Ada and all the women in STEM who have followed her.

We'll be discussing how computer programming has changed over the years and what the future might look like. Joining me today are Chris Cooper-Bland, Group Head of Architecture at Endava and Suw Charman-Anderson, founder of FindingAda.com. Starting with Chris, would you like to introduce yourself?

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CHRIS COOPER-BLAND (CCB): Hi, thanks Bradley. I started my career as a Cobol programmer over 30 years now, I'm afraid to say, on mainframe systems. I then moved into systems programming, it's what then was called middle ware, and finally into architecture. And since then I've been involved in some fantastic projects, primarily in the payment space.

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BH: Welcome to the show, Chris. And Suw?

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SUW CHARMAN-ANDERSON (SCA): Hi, thanks for having me on. Yes, I'm the founder of FindingAda.com, and I run Ada Lovelace Day which is an international celebration of women in science, technology, engineering and maths, as well as the FindingAda Network, which is a mentoring network for women in STEM and the brand new Finding Ada Conference which is a global online conference in November, again for women in STEM.

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BH: Welcome to the show Suw.

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SCA: It's a pleasure to be here.

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BH: Let's start with the context of making more women aware of the exciting careers they can have in STEM. And starting with the education system, STEM subjects have changed significantly over the past 10 years. Suw, where do you think schools and universities should focus to attract more students, and especially women?

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SCA: So this is actually a very complicated question because there are a number of different factors

at play. The biggest problem that we have in terms of attracting girls into STEM subject starts actually long before university, and long before girls are choosing their A-levels or even their GCSEs. And where we actually need to look in the education system is early years learning. Really, from kind of kindergarten, primary school, sort of through up to late single digits in age, because that's when girls are forming their identity.

And what we see at the moment is there is a huge amount of social pressure on girls. Maybe more than recent history really, it's really gotten worse I think in recent years. There's this pressure to conform to a certain idea of what girls should like, what they should be interested in. So what you see time and again, is girls getting really a lot of enjoyment out of STEM subjects when they're very young, and then that fades as they become aware of the societal expectation that STEM isn't for girls. And then by the time they've reached, you know, 10 or 11 they've already self-selected out of stem.

So I think for my money, what we really need to be doing is thinking about how we get female role models and how we get STEM into a sort of toddler, kindergarten environment and into primary school so that girls start to see themselves as belonging in STEM from the beginning. And it's only then really that the interventions that we see a lot of at the moment, around trying to convince girls to take STEM GCSEs and then STEM A-levels and then study at university, only then can those really become effective.

You can have all the interventions you like at age 15, 16, 17. If a girl by that point has already decided that STEM isn't for her, there's not much you can do to change her mind. So for my money, we need to totally rethink how we are structuring the interventions that we make, and that's across the board, you know a lot of universities do outreach days for teenagers, but they're not necessarily doing outreach to nursery schools, and I think that needs to change.

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CCB: I would agree actually, and Endava, as you know, we have delivery units in Central Europe, and there the position is completely different. So we would say that 40 percent of our graduate intake are female in some of our Central European locations, and that's because the whole education system, as you say Suw, right from kindergarten is different. The expectation is different. People's mums are nuclear physicists. That's not uncommon. And hence going into STEM subjects, IT subjects is just a natural thing for people to do, men or women, but it's the same.

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SCA: Actually, the point that you make about parents is so important because we have a lot of outreach towards teenagers, but we don't have so much outreach towards their parents. But parents have a huge influence over what girls do.

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CCB: And actually compared to some of the areas that women are better represented in STEM, like medicine for example, IT particularly, I think it's actually more suitable for people who want to take a slightly more flexible working time, particularly in medicine, which is traditionally a more female focused area, the day there is quite structured. You can't just disappear in the middle of an operation if you're a surgeon to go and pick a child up, whereas in IT, there tends to be a degree of flexibility that can accommodate needs like that.

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BH: So Suw, I found the point about parents being such key influences really interesting. But in order to accelerate this and balance out the genders within one generation rather than obviously waiting for today's children to become parents, what else can we do at the early years' units and school areas?

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SCA: So I think again, careers information is really, really important. Children understand very, very young that they are going to have to get a job at some point. And you know, that's such a common question that people ask children, "Here, what are you going to be when you grow up?" And they need to understand that STEM careers exist, they need to understand the wide variety of different types of job, not just different areas of stem, but you know, the different sorts of job that you can have. So you can be in STEM and be a communicator or a policy adviser or an educator our or a builder or an inventor or a programmer, you know, there's lots of different types of STEM jobs.
And actually that's one thing that I've done with Ada Lovelace Day, is produce some posters that go through some of these different types of roles so that we get girls to think slightly differently, because there's still so many stereotypes. So a lot of work can be done around exploding these myths, creating role models for young girls, showing them that women can be successful in STEM careers. You know, giving them something to aspire to, give them that sense that they belong and that there's a future there, and that its – you know, there's an exciting career an exciting, fulfilling, and meaningful career just waiting for them somewhere in STEM.

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CCB: I'd agree, and particularly you know you mention the developer stereotype. In a business organisation, that's no longer the case. We all work in teams, we all collaborate, we all need to communicate, we need to be able to put over our ideas and share them and make sure that we come up with the right solution working together. The old idea that people are stuck in front of a PC for 24 hours a day is just blown out of the window now. Working in IT is not like that.

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BH: Especially when you think of the new areas of technology, like sustainability and environmental or AI and machine learning, or even machine ethics, I think those are really interesting new areas where there's a completely open landscape ready for new thinkers and new people to come along and shape them. So Suw, this year you've picked out a specific theme for Ada Lovelace Day. What was the reason for the theme this year?

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SCA: So normally, Ada Lovelace Day we have a big flagship event in London, we get seven women in the U.K. STEM world to talk about their work or their research. People put on events all around the world. We literally have an event on every inhabited continent and it's all very sort of free and easy, it's all about, it's women in STEM, however you want to interpret that, entirely up to you. This year, obviously everything is different because of COVID-19. We are doing an online content marathon.
And, so I thought, you know, we doing something different, this is a unique year, hopefully this won't be repeated next year. So you know, let's actually have a focus this year and make something a little bit more specific. So we have kind of in a sense widened our remit. Normally we're celebrating women in STEM in general, this year were also asking people to celebrate anyone who works as an advocate for gender equality. Because there are a lot of people who are doing really great work, whether it's within business, the community, to support a girls and women in STEM.
You know, a lot of teachers and educators who, you know, maybe they're running an after school club, maybe they're running an international organisation, who knows, but there's a lot of people who are helping to support girls and women in STEM who are working behind the scenes and we'd really like people to recognise all of the hard work that goes on. So for us, it's like let's make the best out of the strangeness of this year and use the affordances of being fully online to the maximum.

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CCB: I'm wondering, Suw, if there's almost a silver lining with the trouble this year in that its allowed people to understand that it's perfectly feasible for people to work from home when they need to and still be effective. Obviously, we all want to get back into the office to a degree, but that level of flexibility may actually allow women particularly, you know maybe after they've – maybe they've got children, they do have childcare needs or things like that, they can still manage a really worthwhile career in IT around those dependencies.

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SCA: Yeah I think there is. COVID has really changed how we have to think, and I think the impact is – is going to be a while before we fully understand the changes that have happened in just the last, what, six months or so. I think there's two aspects to what you said. The first is that people are now much more aware of the affordances of remote work and of the internet. So we've moved everything online, for Ada Lovelace Day, but this also forced me to rethink everything that I'm doing with the broader set of work that we doing.
So our Finding Ada Network, that's an online mentoring network. That was quite a hard sell last year when I started talking to companies about it, because they were sort of, "Well you know we expect this sort of thing to happen in person." Now it can't. Online mentoring is the only kind of mentoring that we can do. It suddenly makes a lot more sense. And equally, it forced me to think more creatively about what we were doing, and how we were doing it. And then that resulted in the Finding Ada Conference in November which is a 29-hour global conference. It starts at 9.00am in Wellington, New Zealand, goes through to 5.00pm on the west coast of America.
And I would never have thought of doing that if COVID hadn't happened. It really made me sit down and think, "OK, this year is different. What do we do?" And I think a lot of businesses are going through that thought process of things have changed, I think this is really showing businesses what can be done, and we're getting away from the curse of presenteeism. The flip side of this of course is the damage to women's careers.
Because for a lot of women – we're seeing in academia fewer women are submitting grant proposals, fewer women are submitting papers, women are having serious issues trying to juggle work and childcare, particularly if they have young children. So they're being less effective, and the conversation we need to have as a community is how do we do career assessments and annual reviews? How do we work this out in the long term to take into account the disruption to people's lives and livelihoods?

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CCB: Particularly supporting more junior staff in IT. Maybe women might be less keen to sort of put their hand up and ask and intrude on somebody's time, whereas if you're in the office sitting next to someone you just help automatically or they – you know you see them struggling to do something you can choose show them what they should be doing or provide some advice in a very sort of easy way. It has to be much more intentional when everyone's remote. You have to think, "I need to speak to that person, I need to check they're OK today and they haven't got any blockers."

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SCA: Yeah, it takes a lot more empathy. Although I say that, I work from home and I work remotely and have done for years so it's – for some of us, it's a bit like, "Hmm, welcome to my life." [Laughs]

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BH: Suw, how can people join in the 29-hour content marathon?

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SCA: So, for Ada Lovelace Day, that is on the 13th of October. It starts at midnight in the middle of the Pacific, so at the very beginning of the 13th of October, and because of time zone shenanigans, actually, one date on earth lasts for 50 hours. So we have this like massive content marathon, we're going to be posting on social media, Twitter @findingada, Facebook, it's Ada Lovelace Day, on our blog at FindingAda.com. So people can join in on our hash tag, which is #ALD20.
We're also going to be running a Google Meet channel, a webinar channel, and we have four panel discussions that we're putting on, plus an interview and there will be more information on that coming out soon. By the time this airs, this will all be on our website at FindingAda.com. So all of our activities for Ada Lovelace Day are free, so you can just sign up to the events on Event Bright or sign into the Google Meet channel and enjoy the content. You know, read and watch and listen to your heart's content.
We would love it if people got involved, wrote their own blog posts about a woman in STEM whose work they admire, an advocate for gender equality in STEM whose work they admire, talk about you know your teachers, your colleagues, lecturers at university, anyone who's had an impact on you and who has been working to support girls and women in STEM.

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BH: Well, thank you very much for that. And Chris, if you were going to write or blog about anyone in particular that Suw was just talking about, who would you choose?

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CCB: Difficult question. I quite like the work that Steve Shirley did. I think Dame Steve Shirley, with the whole focus on positively encouraging women into IT. I briefly thought about joining or applying at least, to FI when I was a developer. I think it was a really positive encouragement to women in the workplace at that point in time. We don't have anything like it now and indeed, we can't have anything like it now because it's illegal to select on a gender basis, as it should be really. But I think as an inspirational figure, I think she is fantastic.

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BH: Definitely. And one clear question to ask around Ada Lovelace Day is around diversity and advocacy in STEM, in your experience, what other things that companies have done for you or you've seen them really help promote this, Chris?

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CCB: I have to say I haven't seen very much. And on the other hand, personally I haven't felt discriminated against as a woman. Maybe I'm just not conscious of it or I haven't seen it. But I don't think there's a huge amount of discrimination against women, certainly not in IT, and certainly not in the companies that I've ever worked in. I think in Western Europe our problem is there just aren't enough women coming in to the pipeline.
So for example, when I've been recruiting for an architect in the U.K., maybe I've had 50 CVs, maybe five of them are women. I would always give a level of preference to interviewing a woman, because I'm aware that sometimes women are less forceful in their claims on CVs. It has been known that some people haven't always done all the things they say they've done in quite the same way on a CV. The tendency is less – less women do that. So I would tend to interview a woman as a preference. Once at the interview obviously they've got to be able to do the job, it doesn't matter what sex you are. There's no point in employing somebody who's not the best candidate. But, personally, I haven't seen a lot of discrimination.

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BH: So Suw, any parting thoughts about thinking about the future so that when we discuss this topic again in 10, 15 years' time, Chris is receiving an equal number of CVs from men and women?

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SCA: So I think the recruitment question is a really interesting one, and that there is a lot that companies can do to deal with this issue of just not getting enough women applying and these are the sort of things are really needs to be wrapped into policy. So for my money, I know there's been a lot of focus in recent years around implicit bias training, where you try to train the inherent biases that we all carry with us against women, we try and train those away.
And I think it's actually much more effective to look at company policies and change those because that change is permanent, whereas implicit bias training, there's not so much evidence that it actually sticks longer term. So we need to be looking at things like how job ads are written. We know that the language used in job adverts changes who applies. So if you use very masculine terms and language, so if there's that vibe of, "We're looking for rock star coders, we're looking for ninja coders. We work hard and play hard," any militaristic language, that tends to put women off.
Equally the same with imagery on a company's website, if all you see are photos of men, then as a woman you just go, "Well I'm not welcome here," just on a subconscious level, it doesn't have to be thinking those precise words, but you just don't prioritise that company because you don't see yourselves reflected. The same way that there's issues around making sure that the recruitment process is de-biased, that you have a recruitment panel that includes women and people of colour, you know, different other types of diversity and that's not just so that the candidates see someone like them on the other side of the table.
I've also seen people say it really helped to put off men who can't take direction from women for example. So there's all these bits of policy that can be changed, you know, what your promotion policy is. We know for example the gender pay gap is mostly explained by a lack of women in senior roles. So why is that? Is that because women are leaving because they can't see a route to promotion? Is it because companies expect women to work much harder? You see this at universities where a lot of women get stuck at the top of the lecturer pay bands.

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CCB: I think one of the other key things is making sure we don't lose women after a break for childcare. We support them through that time, come back, be effective. Because if we've gone through the effort of engaging a woman, providing training post-university to then lose somebody is a real cost to the business.

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SCA: Yes, absolutely. ACAS did some research recently that found replacing a member of staff costs £30,000 per person. And that's not just recruitment costs, recruitment costs are actually a fairly small chunk of that. The main cost is getting the replacement up to speed and all the lost productivity from losing that original member of staff. And when you look at the reasons why women leave STEM they're all fairly mundane, and it is stuff around can't access creative and innovative roles, can't see a way forward to promotion, don't feel supported by management, don't feel heard or appreciated. These are all sensible, tractable, problems that we can address. There's nothing ridiculous in there, you know, women are leaving for such mundane reasons.

That's not a sign of success, that's a sign that you have a bunch of capable women that aren't getting promoted and they're therefore getting stuck in a particular pay band, they should be on a higher pay band, they should be in a more senior role. So there's all these sort of little aspects that companies can look at that aren't – they seem quite small individually but when you put them together, it's about dismantling a system that disadvantages women. It's about making sure that all of the implicit bias that we all carry is recognised and then we mitigate against it through policy and process and systems.

Because we grow up in this cultural soup that teaches us that you know, women are just not as good, people of colour are just not as good. And consciously we may not think that, but subconsciously we do and we have to recognise it and you could be the most aware and well intentioned person in the world and you will still fall foul of these unconscious biases. So if we put systems together to mitigate that then we should see more women applying, more women getting hired, more women getting promoted, and then the more women we have in senior roles that changes how a company functions.

And we also know there's so much evidence that shows that women in senior roles, senior leaders at the C-level and at the board level actually make businesses more productive and more profitable. So there's good reason for businesses to sit and think about the processes and what they're doing and how they're doing it and it may – like I say, so sometimes I think people say, "Well this is just a tiny change," like changing how you write your job ad isn't going to have a big impact, but actually, put together all of these things it can have a huge impact and I think that's how we accelerate change. We can't just wait, we have to be proactive.

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BH: We could probably spend much longer talking about the subject, so thank you Chris and Suw for sharing your insights on working in STEM and how it's changed over the years. In part two, I'll be finding out more about how Chris and Suw started their careers and what inspired and guided them to get to where they are today. We always appreciate it when you like and share our podcast.