

Breaking the Ice Ceiling – Episode 2 Transcript

Voiceover [00:00:03] This podcast is brought to you by the University of Aberdeen.

Clare [00:00:10] Welcome to Breaking the Ice Ceiling, a podcast of conversations with women changing the world. I'm Clare Bond, and today I welcome Elizabeth Whelan to the podcast. Elizabeth is an artist and portrait painter and lives on Chappaquiddick Island in New England. Welcome, Elizabeth.

Elizabeth [00:00:30] Oh, thank you so much for having me here today. This is really fantastic. I really appreciate the opportunity to speak both about art and science.

Clare [00:00:38] Excellent. So, I guess my first thought, is that some of the listeners may be kind of thinking like, why am I interviewing an artist on a podcast that focuses on women in science and engineering? And so, I just want to say that I came across a portrait by Elizabeth on Twitter of Megan Carroll. And Megan is an engineer and a ocean physicist at Woods Hole. And not only did I love the painting, but it led me to investigate Elizabeth's series of women in science portraits and to reflect on the importance of representation and recognition of women in science and the role of art in science and vice versa. So, I think we've probably got quite a lot to talk about, but it'd be really great. Elizabeth, if you could start by saying a little bit about your journey to becoming an artist.

Elizabeth [00:01:35] All right. That sounds good. I think for most artists, they say, well, from the very first time they held a pencil or crayon that their journey had begun. So, you know, like most kids, my mother, you know, showed me how to draw a tree and a cat and a bunny and things like that. And I was on my way, but I sort of got a sense of how things were going to be for me in the future, because I would put on, as a young child about seven or eight. I'd put on these little art shows where I would sell the pictures to my parents for a nickel or whatever, so I could go and get chocolate down at the local, you know, the little little Quik Mart, just down the road.

Clare [00:02:15] So you're also an entrepreneur as well, by the sound of it.

Elizabeth [00:02:20] I really got the idea of how commercial art could work. And so, you know, I was always encouraged to do art. But my dad being a scientist himself, being a metallurgist who actually did his masters at Sheffield and then moved us all over to Toronto so he could finish his PhD over there. You know, he was, he thought it was great that I could draw. But in no way was this supposed to be, you know, my career in anyway whatsoever, because, of course, at the time, you know, this was right on the cusp of the Internet age and there was no way to research and find out that you could be an illustrator and you could do all of these other things, too, graphic designer to actually bring in money. So, so because of that, you know, I kept doing art on the side. We kept having these conflicts about what I was actually going to do. I did start off my college years in microbiology because I was very interested in that. But I realised quite quickly after, you know, cutting slides, you know, a few weeks that I just couldn't see this as my, my future. And I dropped out of college and went to the ocean side to become a lifeguard and a bartender, which at that particular moment seemed like a lot more fun. So, it took a while, you know, to sort of get into the arts field. I spent a lot of time complaining about how I really wanted a job as an artist. Well, you know, doing various other things on the side and continuing to draw by my friends were so sick and tired of hearing me on the subject that they saw an ad for a screen print illustrator for T-shirt design in the newspaper. And they packed me and my, my drawings up and said, yeah, well, I don't ever done anything in

black and white at that point. But evidently the art director saw that you could probably train me, you know, teach me how to use colour. And I was on my way. So that's my sort of circuitous route. My art training has just been on the job, so to speak, with a workshop or a class here or there.

Clare [00:04:28] I love it and I love that kind of you know, that not that straight path. And these, you know, the times in your life when actually you do you need time to stand back and, you know, be a lifeguard and reflect and think a little bit about what you're doing and why. And yeah, really interesting. So, you started life as an illustrator then. Yeah. And the graphic kind of artist. OK, so when did you when did you like the painting, or was that was. But she said you'd worked in black and white to start with. And so when did you really take on painting as well.

Elizabeth [00:05:06] Well it's interesting because I never thought of it, when I was in high school, I wanted to work for one of the comic book companies and so me and two of the fellows in my in my grade, we were the ones everyone came to, to have a superhero drawing or something like that. And I mean, I didn't really know how one was supposed to actually make that happen. But in my in my back of my mind, I had I liked this narrative and storytelling aspect of, of art. But as I said, you know, when I when I left school, I had no idea how one actually created anything. So, so getting started in print was really good, because what I encountered was that this company I worked for. I was one of nine artists that I worked for them for quite a number of years, but they hired freelancers. Now, this, this really was an exciting concept for me, you know, that I could actually be at home and doing this. You know, this was this was, you know, what, 25 or so years ago. So, this was, it was not the gig worker economy, really wasn't big at that time. So I was like, I want to be a freelancer. And this was a word I had associated before with very exciting people. You know, there was Margaret Trudeau, who was Pierre Trudeau's wife, and she was a photographer, a freelancer. And she seemed to be doing cool things with hanging out with interesting people. And I remember that from my youth, you know, so I was I wanted to learn how to, to work for myself and took various different art related and graphic design jobs that allowed me to do that and to build my own sort of graphic design and illustration business. And, and so I started doing that. And then we moved up here to Martha's Vineyard, which is where I'm living now. And the business took off. And I was right at that point of deciding, OK, I'm going to have to hire more people. And I and I thought to myself, you know, I never wanted really to run an agency. This was, this just sort of built itself up. If I do this, I won't be doing any more art. I will be managing people. And so, about that time, my partner was offered a job to be a caretaker of a private island right off the coast. And I could go along with the only two people living on the island and I could sort of go along to manage the garden and be the helper. And it seemed an opportunity to spend the winters doing what he wanted to do, which was more boat building and what I wanted to do, which was learn how to paint. So, we took the job, moved to this private island. Now, that is a story and a podcast subject in its self.

Clare [00:07:34] Yeah, it sounds like it, it sounds like it.

Elizabeth [00:07:40] And let me just say that trying to find the time while running a farm in the winter on a remote island to, to learn how to paint proved to be not quite how I had envisioned. But I was I was lucky in that, you know, this little island was still close to Martha's Vineyard and there were plenty of people here who I could paint and friends who I stayed in touch with. And I just started anyway. And so, I have a very determined attitude about a lot of things in life. And one of them was that I was going to learn how to paint. I was, I was forty eight at the time. I figured you know, it was now or never. And once I

painted my first portrait, you know, it all of a sudden; I had gone to portraiture because it was commissioned art. So that seemed sensible, what did not seem sensible to me at the time, was just painting and putting things up and hoping people bought them. And so I didn't really understand how that works. So I went to portraiture because of the commissions and something started to happen. I realised I could paint people. I also realised it was an opportunity, an opportunity to tell stories and to tell people stories and perhaps put a spotlight on folks who needed the spotlight put on them. So that is that, that's how I got into painting the painting.

Clare [00:09:00] Yeah, that's the painting story. I can see we need another podcast about moving to a remote island for sure. I think you bring up lots of interesting things that I think particularly kind of from a contemporary you know, they like you wanted to work from home. I'm not at home now, you know, like everybody's working from home. It's the new thing. But also just. Yeah, again, there's entrepreneurial skills, skills coming out, working for yourself and. Yeah, like lots of things to think about there. But I'm going to pick up a little bit on the living in Martha's Vineyard and obviously the island, and boats clearly, like you said your partner, was a boat builder and that's clearly important to you because I have seen some of your portraits of boat builders, which are fabulous. But this, link to the oceans, links to kind of the marine environment, I guess maybe early lifeguarding. But that kind of wildlife nature, marine environment is clearly important. And then. Yeah, then the science link. So, I'm really. You said your dad was a metallurgist, but I'm quite interested in that kind of person environment kind of link and the sense of place, I guess, and erm then, yeah, you were just touching on it. But this idea of painting portraits and telling a story. So, you've created a selection of portraits of women in science, I think is what you call the series. And so could you just express a little bit about how; why you started off on that journey with these women in science and the importance of the science link to you, really, and how that kind of came about?

Elizabeth [00:10:53] Well, it's rather a convoluted story, as most things are. By the time you get into your 40s, you've got all these various different, you know, factors that are fed in. So, one big factor to do; that kept science into my life all the way along apart from my dad; was he had given me when I was about 13 a poster. So he would go to the big conferences to do his science and there would be vendor's handing out free stuff and you'd get posters and little rulers and things like that, and he'd bring them home for us kids. We thought that was great fun. And he brought me home a poster by a particular artist that showed a beautiful representation of DNA. So, this is in the early 70s and this was a big deal. This artist actually also did, you know, stamp design and all sorts of other things. He was a pretty well-known illustrator in the science world at the time. And I have had that poster ever since because it was, not only was it beautiful. I was fascinated with this idea that an artist could represent something scientific in such a way to, to have an effect on someone; not realising that in the end I was going to actually take that concept myself and move it on. So, as I mentioned, I moved to, you know Virginia Beach, started lifeguarding when I was younger. I had sort of an early midlife crisis and moved on to a sailboat in my mid 30s, deciding to live aboard and then met Bill, who was also living aboard. We moved up to Martha's Vineyard and the water and everything about being outdoors, living, you know, feeling the world around you, feeling that, seeing the sunrises and all of that, this tide of the natural world, somehow that has become a really important theme. And that then led itself to my thinking about how, how nature and science worked together. So, Martha's Vineyard is a very science friendly island. We have a lot of people who live here and visit here, but a lot of people who have moved here specifically for the community, which really encourages the arts and sciences and that sort of thing. And what happened was I decided; this is a very long way to get to the heart of this story. But I

decided I wanted to, to put on an art show at a very large gallery here on the island that was had opened up. And I went to the director and I said, what do I need to do to have an art show in this space? And she said, we'll come up with a really good proposal. So, I said to myself, OK, here's my one chance to do a big science and art show and I'm going to just make it a blow-out. You know, this might be my one opportunity to say some things I want to say about, you know, and so, of course, you know, you start out with these big ideas, then you have to actually make something happen. So, but it turned out to be really fabulous, it was a show I put on a couple of years ago, 2019, called Inseparable. And it was about how the intersection of science and art. But to make it manageable to people, I decided to concentrate on atoms and that and the periodic table of elements, things that folks remembered from, you know from their school. Right. And so it had a number of components to it. You know, local artists contributed pieces on the periodic table of elements theme. They picked an element and painted. I painted some abstracts, I painted big theatre works, and I painted the women in science because I thought to myself that here's an opportunity for me to point out that, you know, we have this image, especially of women in science, of, you know, white lab coat, clipboard goggles. Right. And we don't really think beyond that. We don't have any other...

Clare [00:14:43] Maybe a test tube. (Laughing)

Elizabeth [00:14:46] Yeah, right exactly maybe a test tube! But we don't have a vision that comes to our mind. Like if you think astronaut and now we've had female astronauts, you get you get some ideas. Right. But you don't when it comes to women in science. So I thought to myself, OK, we have perhaps not the, you know, the lab table type of scientist here, but we do have women working in scientific fields. I'm going to go out and find something. I'm going to paint them for this. So now, of course, I'm putting together all of this stuff and I have only so much time. So, I just picked six people, randomly, but they were you know, they were the people I was already interested in and knew something about their work. And of course, the more I got to understand what they did the more fascinated I was and then I decided this is a project that needs to extend into the indefinite future. So that's how we got to women in science.

Clare [00:15:38] Brilliant. And so, for that exhibition, you, you painted six women and so are they all local to Martha's Vineyard then? They all live on the island? And I presume you spent time with them? and as well as I kind of, I don't know I'm quite interested in how you do your portraiture you know.. do people sit for you? Or how does it, how does it kind of work? When you were spending time with them what sense did you get from them of being kind of women in science and how they felt about their careers and the things that they did? And did you think there were any kind of characteristics, I guess, of them as a collective or as kind of, as individuals that just that whole spending time with them as, as an artist?

Elizabeth [00:16:29] Well, that's really that's very interesting. So, what I like is to take art as an opportunity to tell stories. So, this has definitely been a theme for me. And so I thought to myself, OK, what do we need to do? We can we're saying that these women are working in the sciences. But what I was very keen on was showing a pathway to younger people as to how you become somebody who works in the sciences. And so I asked each of the people I met with, can you just write a little blurb for this show? We'll put it up by the painting explaining how you got where you are, how did you get this particular job. And it was really instructive because just as my path has been extremely sort of, you know, and so were theirs, there wasn't a straight path where you go, OK, I'm going to go do this, I'm going to go to college, and then I'm going to become a scientist. End of story.

You know, each one of them had a myriad path and travelled, had done different types of work to get where they were. So my, my process for painting, I love to have someone sitting for me, but these days trying to get someone to sit for me for 60 hours is not going to happen. And also, I find if you're trying to get pictures of people in activities, that photography is the way to go. So, what I do is I try to do a little bit of a mixture. I go and I meet the people, I speak with them, I watch them at work and I'm just clicking away with my camera. I'm not making them pose. I just, I just I'm chatting. We're talking. I come home with four or five hundred pictures, which are sort of like video stills. I probably could take a video and do it that way, but I just like those. I like the random nature of not knowing what I'm going to end up with when I look at those photos, because now I'm capturing people not posed, you know, where their smile is full or their frown is full or whatever, but in between expressions. And isn't that how we deal with each other normally? So, I get people and you know in these, sort of in between moments and from that I look at all of these images and I say, OK, based on what we talked about and what I saw, which, what tells the story of this person and what they're up to at the time. So, I very much wanted them at work and I wanted them doing what they normally do, you know, not dressed up in anyway, you know, just sort of out in the wild. And so I met Dr. Luanne Johnson. She is a conservation biologist, wildlife, all of that sort of thing. I started with her because I read an article about her a number of years ago when I first moved here. She had done, was doing this study on Skunk's. Well, I particularly love Skunk's very interesting, smelly, but interesting. And so, I picked her and she started laughing. She said, you know, the reason I'm interested in Skunk's is because they're predators for the shorebirds I'm really interested in and that's why I was studying them. But through that, I went out with her to a beach and she was out there doing a sort of a census of the birds. There are particular types of birds that she was following and they nest on the beaches locally cause a huge amount of trouble because we end up fencing off the sections for the birds. And people who drive their trucks can't drive during those few months and, you know, all kinds of brouhaha. Yeah. So, she was, she was out there doing that. And it was so fun because I could see the joy that she had in the type of work that she did. And capturing that kind of moment is so much better than just having her pose with her camera or whatever. You know, having her actually out there was so much fun.

Clare [00:20:15] I think that's one of the reasons maybe why I really like the pictures, because I think I could kind of identify with them. And you've got one of a, in a lab and you've got. Yeah, so there's this real mix, but they are very...yeah, they are of people working, of people doing their day job. And as you say, they look very natural and not a posed, kind of yeah, sat smiling with your lab coat on kind of image.

Elizabeth [00:20:47] Exactly, or your, or your dress on your gilded throne or whatever, you know. So I met Megan Carroll whose painting you mentioned. I met her over, over at the Woods Hole Oceanographic Institution. And that was, that was fun because it's hard sometimes for people working in sciences to know what to show me. So, I just said, show me around, show me everything. And so, we were looking at this and that, of course, a lot of work these days is done on the computer. And so, you know, do I show someone working where they actually sit working on the computer? But when we went out and looked at these sea buoys and she was explaining how they work and how they get the information from them. I knew visually that, that was going to be really good. And likewise, Kara Shemeth who is a surveyor. And I felt it important to include all the types of sciences, you know, applied, research, all sorts of sciences, science is not just, as I said, the person with the goggles. And so Kara who has done lots of surveying, has been in the business of before GPS and computers and stuff played a part. So, she knows how to do it the old school way. But it was interesting because I got a lot of good reaction to all of the portraits.

You know, Megan's attracted a lot of attention because of the orange. You know, that caught people's eye. But people loved Kara's painting because it showed this extremely. You know Kara in person. She's lovely. She's also a bit of an Amazonian sort of individual. You know, she's just she's tall and she's strong and she's just she's just a lovely large personality. And her just, you know, working. She's working. She's not, you know, quote unquote, being a girl, the way people tend to think that that we operated like she was out there doing a thing and that attracted, especially from women, so much positive feedback to see that. And what was funny was I then regretted not having included the machete in the painting that I was going to put in, because when she has to dig in these well-off people's yards to find that spot for the surveying pole, there's a, there's a proper name for it? It's often buried under really nice grass and she has to hack away with a machete to get there. But I wasn't sure that, that was the best device to add to the painting. And now I wish I'd put it in. So, you never know...

Clare [00:23:11] I now have this great image of her macheting up posh people's turf, to do her surveying.

Elizabeth [00:23:18] Well the fella who's property it was, was sort of hovering!

Clare [00:23:22] Like, "you're destroying my grass!" (Laughing)

Elizabeth [00:23:24] Exactly! (Laughing)

Clare [00:23:27] Brilliant, I love it. Yeah. It must have been so interesting just to spend time with, with them and to talk to them about, about their work. I am going to move on a little bit on to creativity. And you mentioned people are so busy and that yeah, taking lots of photos. And it also brought me back to my early years as a scientist with my 36 roll of film and going out into the field and carefully noting in my notebook every single image and thinking very carefully about what, what to take. And now we just go, click, click, click, click, click, click, click. Yeah, 500 images. Amazing. And but that kind of really busy life and I feel it as an academic, you know, the endless run of meetings, admin, teaching, form filling. And I feel that in science that really important creativity is stifled by the busyness of everything. And so just how you've managed, how you managed to find space to be creative and maybe the if there, you feel any kind of pressure from a kind of from the commercial angle of your work and also whether any of the women talked about creativity in their jobs that they did.

Elizabeth [00:24:51] Oh yeah. Good questions. All of these I could talk for ages about all of this. So, so you're absolutely right. Trying to find time to think is difficult. And I think that's sort of the crux of it. And one of the ways I've done that and I did this in my mid-thirties when I moved on to the sailboat, mostly out of, mostly out of practicality, but I gave up watching television. I just don't have a television and I haven't had one for 20 some years now. And it is absolutely the key. It's absolutely key because those hours that somebody else would be filling my mind with their ideas, I now fill with my own and I can't put it anymore succinctly. You know, I'm doing a number of different things. I sponsor a drawing contest. I give free online classes to the community. I, I do painting for myself. I do commissions. I would never be able to do that if my time was at all taken up by other people's ideas, I had to have the space to be continually living not only in my own head, but, but to be able to build on ideas I come up with. So, they aren't just jottings on the post-it note, they actually become something. Now, do they always meet my full expectation? You know, just like for the, for the, inseparable show, I actually had bigger ideas that I wasn't able to get to. I wanted to do more paintings. And sometimes you just have to deal

with what you know, what's reasonable. I will say for that show, I'm just going to throw in this extra. We had an enormous turn out for the opening because a friend of mine who's a fashion designer did this huge fashion show based on science and the elements. And it was it was extraordinary. So sometimes you can rope other people in, you know, who normally wouldn't be operating in that sphere by doing something of that, of that nature. But I do think it's difficult to, to find the time to be creative and once; so I'm going to do sort of segway on this whole imagination thing for a minute, because this is a big deal to me. I do think that we have commodified imagination and handed off the responsibility of thinking imaginatively to others so that when we sit, even if it's the best television show you ever saw and the actors are wonderful and this, and that and the other, unlike even reading a book, we've decided to let somebody else decide what the people look like, what they're going to say well, the World they're going to operate in, and the concepts that are given to us by these stories; rather than even with a book. Yes, we're given a storyline. But the other bits are, are in our own heads. And so what happens, I believe, is that we, we get to the point where exercising our imagination, you know, we start thinking, oh, does that mean goblins and fairies and witches and things? Know what is imagination? We don't even know what it is anymore because we don't spend any time using that particular muscle and just, you know, letting our minds wander and create in and of themselves. When we do get that opportunity, we don't have knowledge to base our imaginings on in order to get to a new level of thought. And so, this is sort of to me where the science aspect comes in and why I feel so strongly about having scientific knowledge to be more a part of our culture, because I believe it, under knowledge undermines fear. It takes away the fear of knowing, and it takes away the fear of having these ideas in your own head, which may possibly become viable. You know, obviously, imagination took us to the moon. You know, imagination created so many of the wonderful things that we now rely on, but we have boxed ourselves in so that the individual doesn't actually exercise that particular muscle.

Clare [00:28:47] That's super interesting, I guess. I think there's creativity in art and science is, is like I think it's really key. I also agree that modern life, like it's supersaturated, isn't it? So I have also spent quite big periods of my life without a television and I have found them amazing. But now, also like everything; you know, your phone is in fact, you know, does the job of a television if you want it to. And you just that. Yeah, there's so much passive, that passive yeah things that you can do that. Yeah. That like you say, then you you're just you're watching other people's things and there is no. Yeah. Need to. Yeah. Think or imagine, imagine things. I definitely for me I like, I go out for a walk or something and that's when I definitely, that's when I find the space to really, really think and also having conversations with people. I think it's, it's one of the, the worst things about this, this pandemic has just, you know, all the conversations are like this on zoom. I mean which is great, because I can speak to you in North America, but like that, personal you know chat over a cup of coffee with another scientist, who then gets their notebook out and scribbles like, oh, I, I so miss that.

Elizabeth [00:30:16] Yeah, it's really difficult. And I think, you know, when you when you were asking, well you know, how do I, you know, commissions and the pressures and this that and the other. I do think that yes as a commissioned artist. I need to make money and I've become somewhat used to the vicissitudes of that kind of life, you know, and luckily, I have a partner with a steady job that helps. But I you know, I have to do my own I have to play my own part. I know. So obviously, I'm continually working to bring in commissions and do that sort of thing, but I make sure that people know that's commissioned work. I don't believe this business of, oh, commission work is selling your soul or anything like that. I actually find it a great opportunity to try new ideas. And I, I put up on my website the

artwork I want to do more of because then I attract people who want me to do that sort of thing. And I get to play around with these ideas as I'm actually doing the commissioned work. But I also keep extremely busy and I find that that, you know, I can't have that phone. I can't sit down. Yeah, maybe I spent 15 minutes on Twitter the other day, but I simply can't do it if I'm going to accomplish these other things. And perhaps for an artist, I don't know whether it's the same in the scientist, scientist world, but I'm fifty eight now and I feel I feel how many you know, how many more paintings will I be able to produce, you know, how long is my life going to be, how many more good paintings can I put out there I need to do this work now this has to be done. You know, I feel the pressure of time from that point of view more than from the daily, you know, what time is it on my wristwatch that sort of time?

Clare [00:32:00] Yeah. Yeah. So I get the impression from that is that, you know, that the commercial aspects of your work actually you've designed them as such, that they allow you to be kind of creative, I guess, and, and to explore. Which is great. And I guess, you know, science is, and I guess, art. All of these there's this kind of be like balance between kind of, you know, doing science that will have an impact, will do things, to other things that's really blue skies. And that's really exciting to you. It may be really hard to get funding to do, but for you is really exciting. So, yeah, I guess, as ever, life is a balance,

Elizabeth [00:32:46] I think for younger people who look at my life now and they go, God, she's got her own studio and you know, she, she paints and she does this and she does that and they don't realise that there's this long path where I worked for other people doing things I didn't particularly like. But if you, you know, if you were to ask me what, what message would I give to to a person who was getting into that type of work, it would be to not, not worry about where you're going right out of school. You know I have a lot of parents ask me, you know, my kids going to this expensive art school are they're going to get a job. And my realistic response is probably not. You know not doing what they went to school for, but will they get a job in the arts? Yes. You know, that sort of thing. So, you know, there's, there is a pressure, I think, to perform for what people think an artist ought to be at various different points in your life. But you get to a certain point where you do find these niches you like to operate in. And for me, science is a growing one and in fact, growing to the point where I'm really going to have to sort of be careful about what ideas I'm trying to follow, because, I mean, there's no limits is there? There's so much you can do.

Clare [00:33:58] Yeah, there isn't. So, I've had a couple of projects working with artists a lot of... one of them has been really around engaging school children in science, through art and. Yeah, I found it absolutely fascinating, working with the artists in collaboration, and I just yeah, your portraits is just one aspect of possibilities for scientists working with artists and artists, working with scientists. And I'm just interested in. Yeah. How you see that, the importance of it from your point of view as an as an artist and as an artist, you think you could kind of bring to that kind of collaborative space.

Elizabeth [00:34:47] Well, this is a this is now my favourite subject to talk about, you really got me started on a good one. I think, you know, there are once again, there are a number of different factors that led me to this idea, to almost have a mission to, to sort of meld the two. And one of them was listening to a story about Leonardo da Vinci when it was and it was going on and on and on about his great genius and how he did scientific stuff and artistic stuff. And yes, I think Leonardo was really great. Don't get me wrong. But I think if we are going to act as if he is a one off and that other people cannot also do both artistic and scientific things at once, we do ourselves a great disservice. And so, what happens,

and I'm sure you've encountered this in school, is that when you're dealing with the school children, is that at about age 12, we're put on separate tracks. You know, you're more scientific, you're more artistic and never again do these groups meet except for maybe a one off project.

Clare [00:35:49] I think it's even. I'm going to say worse in the UK than it is in North America in terms of those narrow specialities, kind of really early when you're really young. Yeah.

Elizabeth [00:35:59] And so every now and again you'll get people going, oh, will we should we should bring them back together, you know, and do something. And so it'll be like one art show, or there'll be like one aspect. And I think what happens is as artists get older, they don't really think about that, you know, but maybe when they're in their 20s and 30s, they think like I do, gosh, it would be really great to do all these interesting scientific things going on. And I'm interested in this personally, you know, this artist thinks to themselves. But I am afraid, you know, the artist has a fear of not, not doing it right. Not getting it right. Not really. It's been a long time since that high school chemistry class or whatever. And guess what? There are more elements on that periodic table.

Clare [00:36:43] Where did they come from!? (Laughing)

Elizabeth [00:36:46] Where did they come from? You know and, so this fear of getting it wrong, I think is a major stumbling block. I talked to many, many artists who, you know, they're interested in, in DNA and quantum mechanics and all of these other things. But they don't know enough. They feel that if they put something on canvas or they illustrate something, they're going to do something that's wrong or infantile or whatever. So that puts a bit of the burden back on the scientist who might be saying, well, why? Why should I be bothering to tell this artist all this information? And there's a tendency also if you're working in a very niche aspect of science to either simplify, oversimplify what you're saying, or go right down the rabbit hole and start to give people all kinds of information they can't quite follow. So I think to, to counter that, what is required is continual interaction between the arts and the science community. I don't think it can be just one art show, one a one off this that and the other. But I'll tell you this from that inseperable show I did. And I have thirty four artists and they each picked an element and I told them, I said, do some, you know, look into this element you've got find something interesting. And what is the coolest thing it was used for or some interesting fact. And do your piece of artwork, whatever it is around that artist after artist responded to me saying this is so much fun. I have not done research for a concept in years, or ever. And just to even find out more about this, one element is so fascinating to me. And so, it shows me that there is a desire there. And what we're lacking is that information. So, whether it is in your local community that if you know; say wave mechanics is your thing and you say, I would like to do an art show with the local arts community about wave mechanics, about this one aspect. I'll give a talk and I'll tell them what it's all about. And then they just kind of go with that. With the idea that you're starting off with the basics, you're sort of leading artists along the journey of learning about what it is that you do with the idea that other people who then come and see these art shows or experiences are in one way or another. They then get this information in their heads as well. And you never know where this is going to leave. The overall goal is to basically imbue our culture with an appreciation of arts and sciences and how they intermingle, how writing and science, art and science, and poetry and sceince. These are not separate entities. Science is the observation of the world around us. The world around us doesn't just go away, if we stop thinking about science, it's still happening. So why not, why not take the time to understand it in many different forms?

And I think artists are uniquely positioned to communicate in a number of different ways that you just never know. Somebody out there is going to be like I was with that poster of the DNA and is going to see something that lodges with them that causes them to change the course of their career based on one image. And you could be the scientist who provided the information for that image and created this chain reaction.

Clare [00:40:06] Aww, that's a lovely way of expressing it. And I love that your exhibition was called Inseparable, because I think. Yeah, we're so used to pigeonholing things and putting people into categories and actually life's not like that at all.

Elizabeth [00:40:22] Exactly.

Clare [00:40:24] So, yeah, I'm quite interested in art as activism. And I think the words like activist is really quite strong. And I'm like, you know, I, I think environmental activist for me, you know, the imagery that I'd have in my head was you know somebody maybe chained to a tree or something, something like that. But I think, you know, there's kind of micro activisms maybe is a way of expressing it. And I'm this choosing to challenge whether that's racism or gender inequalities. And just I guess I see your Women in Science series as you know, as activism, as kind of positive representation of women in science doing things to Yeah, really think about equality and gender diversity within science. And so, yeah, I just you know, I guess there's some artists who are, you know, are very they use that art definitely for activism. And they they do things that I say definitely focussed on raising awareness about climate change. And, you know, they're kind of conceptual artists who do that kind of thing. And so, I just wondered whether you saw that element of, you know, activism in your art and you think that's that's something you're going to expand in the future. I mean, did you see it as that, as kind of, you know, these women in science? Did you see it as a way of building positive role images and improving representation?

Elizabeth [00:42:05] Yeah, I think I think I did, but perhaps not in an aggressive manner. You know, I mean, I guess I thought, you know, I'm happy to paint paintings of men, scientists, too, and I have done so. And so I've got no sort of problem with anyone who is working in the sciences. I am happy to paint them. But, definitely. And especially in two thousand and nineteen, I think we were the cusp of the me too movement and all of that sort of stuff. And I saw an opportunity there. So I do think that when you're a person who can create visual images and you can tell stories, there are a lot more people out there whose stories need to be told. And I look at it from that point of view. So right now I'm working on a project where they go to, the allegorical figures and the go to colour of their skin would be white, you know, based on classical, you know, approaches. So I'm going to either paint either darker skin or a skin colour that I'm sort of creating, which is sort of a mixture of different skin colours and likewise with features just to sort of say, you know, can we please look at this from a different point of view and maybe, maybe expand our way of thinking without necessarily saying everything else is wrong? I don't want to I'm not casting the baby out with the bath water, you know. So, so I think that's sort of my role. And I look at it from a point of view of being a person who is sort of a translator between different groups and entities. When you go to your doctor these days, they tend to to, you know, you tell them what's wrong with you, and they send you off for a bunch of different tests, depending on what the tests come back as you are then sent to a specialist or a different specialist. But you don't get the sense that all these specialists are talking to each other, that it's being interwoven, they forget the body is a whole one whole big thing, and they're busy dividing you up into arms and legs and noses and views and things like that. But that's not how the body works. And I look at that in terms of our society and our culture in the same way. We need, we have specialised in many different fields and areas of

interest and knowledge in ways that are understandable and no doubt that we've headed off down all of these alleys. But at some point, if we're really going to benefit from this, this stuff has to get woven back in, you know, and that is up to, I think, the creative people, the writers and the poets and the artists, and the musicians and stuff to sort of bring some of this information back in. But in order to get that information, we you need to get it from the scientists or the people in these other endeavours, so that we have the material with which to work with. And so this is, you know, I think you know this is how, how we have to proceed. And I look at myself as looking for opportunities to, to create those connections. I can't solve this problem myself, but I can I can do it in one small way. And I look, and this is why I sort of focused on atoms to start off with. I said, look, this is really accessible and people are, artists are understanding and the audience is understanding. So let's just start there. We can move on to amino acids and proteins, which we can, you know, build up as we go along and get into more detailed subject matter. But I think of myself less as an activist and more of somebody who is facilitating communication between groups of people.

Clare [00:45:39] Nice. And art, like you say, art has such a key role to play in society and in bringing people together. And clearly this yeah, you've used the word lots, but this idea of narratives and stories and yeah, that kind of sharing of information, I don't know, quite, it's a lot more fluid than that. But yeah, it's really interesting. Yeah. And how artists in the biggest sense, you know, musicians and so, can really help in creating those narratives and bringing people together.

Elizabeth [00:46:12] I think one problem is that people tend to go, OK, well, we should educate the children more, we should create more children's books about science. And we end up you know, it's just. I was thinking this morning, I said, well, if I were to try to tell a child a story that would actually get them where I wanted them to be, what would it be? And I would be thinking of something like, well, you know, imagine that you're a person out in space and you're using special spectacles. And with those spectacles, you can only see atoms. And so you would see all of these atoms or you would see nothing else, but all of these atoms everywhere. And then you would have a different pair of spectacles, and with those you could see elements and now you see all of these atoms are grouping together as elements everywhere. And now you've got another pair of spectacles with those, you can start to see how these elements are grouped together to form different things and sort of use that kind of visual metaphor to work backwards, to give a child an imaginative view; that when they look around them, they're seeing atoms. And without actually making one of those sort of, those you know, balls and rods, and telling them this is an atom. You know, how can you think of other ways to describe what's going on? And I think this is where imagination comes in. This is where creative people are already working in this sphere. But it gives you a different way to introduce people of any age, to the idea that you're talking about. So, so I am continuing for the moment on the atoms theme, the elements. I have, lists of which elements are found in what? In plants and people and in rocks. And there's that. And I'm doing a series of drawings and paintings that will have all of these objects sort of flowing in and out of each other, showing the interconnectivity, you know, whether it's carbon or whatever it happens to be that's found in each one that we once again, we're inseparable. I'm sort of taking that, that same idea a little bit further and also to deal with how this also affects us after death, that people. Where does spirituality actually come in, you know, when we actually think of the physical form and atoms and how they will dispersed into the universe and we'll be there to create things for millennia to come. And that this is this is a way to think of the continuation of ourselves. And our spirits is through atoms and sort of, you know, think about what does that mean or how, how

could I show that? Anyway, there's a lot there. Hopefully I will move at some point into maybe into wave mechanics. But for the moment we're sticking with atoms.

Clare [00:48:54] That sounds awesome. I love the. Yeah. I'm going to be looking now at your web page, going yeah.. has she put up any of the atom stuff. I'm really like, yeah, I like the visual kind of concept you've conjured in my head is quite interesting. It's not, it's not concrete, but it's not like ahhh.... Yes, super lots to think about. So, I want to end our little chat, really by asking you what you would say to young women who were just starting off on their lives, careers and yeah, just any reflections from your own experiences? And I think it would probably be really interesting to a lot of them. You said quite a lot about your kind of life story and how that's built up, but is there anything else you'd like to add to all of that?

Elizabeth [00:49:44] Well, I do think that we start off thinking, well, we don't really actually know what we're going to be, but adults tell us we should do something. And so we pick a name or a job title out of the air and we all of a sudden we're signing up for classes and we're spending lots of money on education. Without really knowing where it is we're going. And then we sometimes get partway down that, you know, that on that journey and realise we really should have maybe tried something else and then people feel badly, perhaps that they abandoned one course of action and took another. But I think my message overall is that everything that we do in life contributes to where we are going. There is no one bit, that isn't going to, even the bad parts, that aren't going to prove to be useful in some manner in the future. I would highly recommend to everyone to get out of debt as quickly as you possibly can, even if that does mean taking the bartending job or whatever it happens to be to get that debt out of the way. Because once you do that, no matter what you, what you want to be in the future, you free yourself up for opportunity to come knocking. And that way, if something crazy does come along, that isn't going to give you a lot of money. You have the freedom at whatever point you are in your life to, to try to step off the expected path and do something different. And once you start thinking like that and looking for opportunities to do things just a little bit different, you know, all of a sudden new pathways open up and you will end up somewhere you never imagined. I think it's a mistake when people say, oh, you should follow your passion. You know, people don't know what they're passionate about for decades. They really don't know what that's going to be, it's just really one interest after another, one opportunity, or maybe even just one job after another until suddenly something crystallises. But the key is action. You can't just sit on your sofa and think about it. You have to just get out there, take any job, do anything, try and evolve into opportunity. And once you're emotion, those new pathways will open, but they won't if you're worried or scared, you just have to be brave, courageous and go for it.

Clare [00:51:56] Brilliant, what super advice! I should I should take some of it too; take some of those interesting opportunities. Amazing. Thank you ever so much, Elizabeth, for talking to us on Breaking the Ice Ceiling. It's been a super interesting chat.

Elizabeth [00:52:11] Thank you so much for having me and giving me the opportunity to get on my soapbox about my favourite subject.

Clare [00:52:16] Brilliant!

Voiceover [00:52:22] This podcast is brought to you by the University of Aberdeen.