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<https://podcasters.spotify.com/pod/show/tellingsciencestories/episodes/Telling-Science-Stories-Episode-6-Podcasting--Radio-with-Rackeb-Tesfaye-e20bus8>

Hello and welcome to Telling Science Stories. Once a publishing course at Simon Fraser University, this show is all about what makes good science communication. From journalism to YouTube videos, I speak with experts in the field about the techniques and theories they use to tell better science stories. I'm your host Alice Fleerackers, and this podcast was originally recorded on the unceded and traditional territories of the Musqueam, the Squamish, the Tsleil-Waututh and Shishalh nations.

Today's very special guest is Rackeb Tesfaye, a PhD candidate in the integrated program of neuroscience at McGill University and a science communicator. She's the founder of Broad Science, which is a pretty amazing initiative dedicated to making science inclusive and engaging and intersectional through podcasting. She's also a science columnist for CBC's radio program, Let's Go CBC, and a vocal supporter of accessible science communication training for graduate students, which is very nice to hear given what brings us together today. So there's lots of other things I could say about you, Rackeb, but I'll just end it there and say, you know, welcome and thank you so much for being here today.

Thank you so much for having me, Alice. I'm excited to get into this chat.

Let's dive in actually with a little science story. I would love to know what kind of led you to start Broad Science.

Yeah, so I was in my master's program at McGill at the time, and I had never really had a critical lens about how science was produced. So like I got to my master's thinking, you know, just memorize, regurgitate, get your grades, and you'll be a great scientist. And that's kind of the extent. And, you know, when I started working on some of my projects, I was starting to realize, hey, like, you know, why are these databases that I'm working on primarily kind of European ancestry, upper middle class families? These didn't represent the communities that I had grown up with. And so I was like, what do I do with these people that I grew up with? And so there seemed to be some sort of disconnect in terms of how my research could benefit people and specifically what types of people. And then, you know, I got more kind of a critical analysis, not from classes necessarily, but just from reading at a higher level in academia. So learning that like in my basic neurobiology courses, that a lot of the models that were meant to model pain, chronic pain, for instance, were done on exclusively almost male mice. Some of the justifications for that were, you know, controlling for menstrual cycles. Researchers didn't want to control for menstrual cycles or take that into consideration in the research, and I'm like "is that a thing? Can you do that?" I had all these questions in my head. And I was just starting to push back on this lack of bias. And I really wasn't hearing that represented as well in media stories. You know, when I was listening to science podcasts, you know, no one was really, there was no angle of inclusivity. You wouldn't hear stories about underrepresented communities. And if they were included, it was like framed negatively. Like it wasn't like a nice feel good story, you know? All of that was kind of kind of in my head as a master's student. And so what I did was, I mean, I was volunteering. I started to write at that time. You have to have other things to do other than be a graduate student, I learned. So, you know, I was writing for the school newspaper. I was volunteering at the local radio station. And so one day with a friend of mine, I was like, hey, why don't we just try to tell this story that we want to hear, but tell the stories that we want to hear, tell the stories from the community that have not been represented and do it in a way that is really community oriented. So we were like, oh, okay, why don't we just create a podcast as if that was easy. We'll tell these stories. And so actually the first story that

we told was about chronic pain and the disproportionate impact it's had on women and how the neuroscience field, you know, even at the basic modeling level has, you know, had a lot of biases embedded in that research, you know, with the male mice, for instance. So that was the first story that we ended up creating for broad science. And we thought that would be it. Like that would be our contribution. It was like, we did it. And then all of a sudden we got really great feedback from the community, you know, at the end of my master's, when that came out, we had said, oh, why don't we do like a listening party for our friends? We're like, oh, 10 people will show up. We got, oh, we got over 60 people showing up to this like small little room, like stuffed in. And we had chronic pain survivors. We have researchers, we had the general public and they were all mingling with one another. And it turned into like everything that we had wanted it to be, which was like community oriented. It was like accessible science to the people. And it was like valuing different expertise that we rarely see. It was saying, hey, this person who does mouse modeling is equally as valuable as this person who's had the experience of chronic pain. And we need to be like interacting with one another. That's how it got started really.

That's like a pretty nice success story to have that kind of response. Do you have a sense of like why it struck such a chord or what motivated all these different, really different kinds of people to come out?

Kudos to our friends who spread the word firstly. So, you know, but that's what happens when you reach out to different communities and when you're really intentional about the space that you're creating. You know, I joke about the friends, but you know, for us, we, we reached out, we created connections between chronic pain support group and between researchers and we did our due diligence. We took our time to create the story. We didn't create it in like a week, you know, it took months because we were just learning how to produce and to mix and all that. But we also did our due diligence in terms of researching and making sure that we had an understanding at each level of what we were talking about. And then making sure that everybody felt comfortable with being involved in the project. So it was alternative to, to, to what you see in kind of mainstream media. And so it was more collaborative. And so I think that that resonated with a lot of people who were like, oh, okay, this is, this is something that I can be a part of. This is a community that I can be a part of rather than like, here's a product that's being thrown at you. It's like, no, no, no, let's like involve you in the discussion. Let's, let's all be a part of this discussion because we're all, we all have valuable voices. So I think that's maybe what spoke or resonated with folks.

It's interesting that you mentioned the difference between mainstream media, because in a way you're now also doing a radio program for a very mainstream outlet. I'm wondering actually, like, what's the difference when it comes to like a good science story for a podcast versus a radio show?

Yeah, that's a good question. So what I do, I mean, what I do is quite different with my work with CBC. So, I mean, I am, I don't have the luxury of, of an hour to produce an investigative report that can have, you know, you can inject nuance into it. You can, you can have multiple different angles. With CBC and my science segments, you know, you're, you're trying to just get the basics out. You're trying to make it fun and interesting or compelling in some way, but it's gotta be quick. And I think that my work at the community level has really shaped how I try to do that. So, you know, I, do center my stories around different sections of society that we don't get to hear from, or I, at least, you know, I try to do that as much as possible, but there's kind of like a difference in like the level of urgency and like the, just the time that you have. Sometimes just editorially, like you want to be telling stories that one, either directly impact people's decision-making or like health, for instance. So, if I'm talking about COVID-19, which I actually try to stay away from, but if I am talking about, let's say like, you know, a health study, I want to

make sure that it can be valuable to the listeners. And if I'm talking about a fun kind of science story, I try to make the link between, okay, like how, how does this connect to society more generally? So, I do try to incorporate elements of like community radio, but again, it's that, it's that time, it's that media cycle, it's, you don't really, you know, you don't really get to flesh out what you could do with community radio.

And so just like, what strategies do you use when you have so little time to actually make the science sort of resonate or be engaging with? You mentioned, obviously, making sure it's relevant to the audience. Do you actually get to do any like storytelling, for example, or are you really just providing facts? Like, what does that look like?

I always come back to, and I forget where I got this from, always source your stuff, but I can't remember, but I think it's probably like NPR or something. And there's like an X, Y formula. What is the story about and why is it interesting? Before I even work on, on researching and doing kind of all that stuff that gets involved with the scripting and whatever, I have to ask myself and at the top of every document, you'll see, what is my objective? Cause it's gotta be concise, right? Like, and why is it interesting? Why is it relevant to the audience? And so I always start off with like the relevancy at the beginning, right? You want to, you want to hook your audience at the very beginning. You want to tell them what you're about to listen to is really compelling. So whether that involves, you know, setting up the context for why it's relevant, whether that is starting off with a story or, you know, an interesting metaphor, you know, something that will resonate with the audience. And then I don't just state facts. I really do try to make sure that there is a narrative to what I'm explaining. Yesterday, I was on air and I was talking about the increase of Lyme disease cases across Canada, but specifically in Quebec. And obviously that's relevant because where I'm in and I'm talking to folks who live in Quebec, right? Yeah. So, you know, the link is easier with some stories than others, but, you know, I have to talk about ticks and so I can give you some like dry facts about this organism, or I can make it a bit more interesting and playful, right? Like ticks are, they, I mean, they're cool from a scientific perspective, but they're nasty buggers. They are able to climb up on you without you noticing because they're so small. And also they are able to bite you without you noticing. It's painless because they release an anesthetic, like a numbing agent when they're sucking on your blood. So oftentimes it takes hours for people to realize that a tick is on them. I'm able to give you those facts, but like, you know, talk about it in a way where I can describe it a bit in a way that's like compelling. So like these bugs are like vampires, but they're like silent kind of invisible vampires. And, you know, you can use language, you know, the language that you choose is so important for radio because, you know, rather than just me giving you a detailed forensic play by play of what these ticks are, I'm able to use language that will resonate with the audience a bit more that will engage them. Hopefully if they're sitting in traffic, listening to me talking about ticks, which is kind of disgusting to the average population, at least I can make it enjoyable in some way and then bring it back to, okay, what do you need to know? What is a takeaway?

And when you have the luxury of a full hour, you know, what additional considerations do you have in mind when you're putting together, you know, a whole podcast episode? What does that look like?

At the beginning, chaos, because it's such a big thing to tackle. You know, everybody, I think, it'll resonate with most people who are studying a project, whether it's like a report for class, like you can fall into a rabbit hole very quickly. And so even though an hour sounds like a lot, in order for people to stay around for an hour, you have to structure your story in a way that makes them want to stay and takes them on a journey that they like can connect the dots and don't feel lost in, right? And so that's really difficult. And it is more difficult than what I do with CBC, which is just more like 10 minute science

segments. What that involves is sort of more planning, multiple voices that you can't really get with a quick science segment, right? You know, we're not only interviewing one person, we're interviewing multiple people. And then in between, we have to be the fillers, the gap fillers with voiceover and narration. And so there are so many different moving components, but at the same time, it's like, it's really rewarding because you get to provide context between these different experts that you have on the show and then really make a story come to life and have like a full beginning, middle and resolution.

And so you mentioned sort of this work you have to do to come up with the structure, bring all those pieces together into some form that will keep people engaged. What does that process look like? Like, do you have any kind of like tools you use or like some sort of template you rely on or like, how do you actually come up with that narrative?

So first and foremost, it's, it actually just goes back to the same X, Y statement that I spoke about earlier, having a really clear objective. I can't, and, you know, I say this to my students a lot. It's literally the most repetitive thing that I will say throughout the year. The more concise your question is, you know, ultimately the better your product is. When you start, you know, when you start kind of getting into that rabbit hole and you don't really know what your objective is, you start thinking about what your objective is. You can take so many different turns that your product becomes hectic. And that's not what we want. We want clear objectives and we want to pick our audience for that objective. So this is what we're going to talk about. This is why it's interesting to you, the audience that we've selected to listen into this podcast. Not to say that other folks can't listen to this podcast, but it's really, it's usually easier with like a person in mind or people's in mind when you're creating your podcast episode. And then the work begins with thinking of what's already been out there. You do a scope of the existing understanding of the question that you're asking. And so, you know, that involves understanding who's been involved, what types of angles have been taken. And really what you want to do is not be repetitive. Like, I don't want to be competing with another journalist who's done the same story, right? I want to provide a different angle on this story. And so what I've created is like a, it's like a compass. It's like a way for me to understand it's, I call it the perspectives compass. And essentially it's just a series of questions that I ask myself and the team whose voices have been heard in previous stories related to our questions. What other stakeholders have been involved? So by mean things or people, objects that have been impacted by the question or the story that I'm interested in. So that could be land. That could be an animal maybe. What is the perspective of them? Trying to think outside the box slowly. Then you start to narrow down the story that you can tell by looking at who do I want to give a platform to that has not been heard yet. So that I think is one of the, the kind of the first things that I do that X, Y statement and the perspective compass is like number one and number two in terms of starting like a long journey, like an hour long podcast. Yeah.

You mentioned your, the importance of knowing your audience. And to me, it's not clear how as a doing a radio show where you're not having a direct communication with somebody, how do you know who your audience is? Or are you just imagining a fake audience? Do you have some sort of a way of getting to know who's out there listening or what is that?

Something like a podcast, right? When you are involved in the creation, you can be very intentional with how you create your product to choose your audience, right? Something like mainstream CBC radio. It's a wide pool. I'm based in Montreal. So I'm with like CBC, Radio Canada. So I know who broadly speaking, I'm talking to. So it's the Quebec population. And so I know that, you know, things that will be most interesting to them are regional stories, regional science stories. So I keep that in mind, but what's really great about this show is we get texts during the segments. Actually the Lyme disease show that I did

yesterday, we had multiple people asking us to do this segment. So I did the segment because they asked me to do the segment, right? So that was really helpful. You know, that's always the best thing is when someone's like, I want to learn about this. I'm like, give me a week. I'll come back. Like this is what I'm a researcher at heart. So like, this is what I do best. I'm going to come back with a compelling story for you. And I did. And I, you know, obviously answer their questions, but then I was like, your question is so good. I'm just going to expand this in an entire segment because, you know, I learned things that I didn't know. Like I learned things that I was like, hey, I think the rest of the audience should hear about this. So then I added to their questions and asked my own questions and it became a, it became the segment. So yeah. So that kind of bi-directional engagement, you know, you do want to have that as much as possible. Especially if you want to stay relevant and you want to, you want to stay sustainable. So with broad science, like not only are we just producing something, but we're constantly getting feedback from our community. We're saying, hey, what would you like to hear about? Or like, do you want to be involved in like helping us pick what pieces of the story to tell? Like it is an iterative process. It is a collaborative process. So like, it's, it's not just me coming in and saying, I'm going to tell you what, what, what I want you guys to listen to. And I think this is interesting, but it's really like listening to what other people are interested in and what they have to say and incorporating that as much as possible into your production.

And for, for broad science, like, are you asking these questions of your audience on social media? I mean, so where are you getting that two-way interaction from?

Yeah. Yeah. No, that's really a great question. So actually, like full transparency, we've kind of, we're on pause now. We've been on pause for about over a year, not only because of COVID, but like, it's a graduate student run initiative. And so you can only imagine kind of the burden that it has on, on students to run this like kind of full-fledged program. So we're taking a break, but part of what we did was to create full long-form documentaries. Part of that involved contacting people, whether that is people that we knew from, from our community or just cold calling, cold contacting folks and asking them if they would share their expertise. But a lot of times, you know, the people that we contacted might not be, you wouldn't hear their voice on the program or on the episode, but they had a hand in helping us kind of figure out format and figure out the structure of the story. You know, I can give you one kind of tangible example. We did a story on the Me Too movement in STEM academia. Part of our job was to ask survivors, well, one, if they want to share their story. But what ended up happening is we got multiple people who want to share their story, but they didn't want to share it on the show. And so, you know, we would listen to them and everything that they told us, it was almost like a consultation would inform how we told the episode and the questions that we asked, because it was directly coming from these mainly women who had these experiences. And so that's, you know, one way of like collaborating, but not necessarily including them in the auditory show that you hear. They are involved in the show.

And I just have a couple questions for you left, but I feel like I could talk to you all day. I was wondering, you've talked before, and I mentioned briefly in your bio about the importance of radio and audio formats for like intersectional science communication. And so for people who don't know what that is, can you just briefly define it and maybe explain why you think audio is a really good space to do that work in?

When I talk about intersectionality, I'm talking about viewing a story or viewing an experience from the perspective of multiple different identities. Above that, and most importantly, is looking at the power dynamics between those identities. How does your identity as being a woman impact your experience in

a certain situation? But then how does your experience as an Indigenous or Black woman impact that experience? And so there are multiple levels to how our identities shape the way that we've experienced something. The identity, in addition to power and who holds that power in society, is what we're really trying to get at when we talk about intersectionality. And I should say that this term comes from a Black feminist scholar who's a legal scholar called Kimberlé Crenshaw, who applied this term to a legal case that she was studying. And I would highly suggest your students to read this case because it's a huge contribution to our understanding of society. So audio is something that most of the world is familiar with. It's a media and specifically radio, which podcast has its roots in. Radio is the most accessible media form on our planet. Over 70% of individuals have access. I've lived in remote areas of Ghana, for instance, where I was 20 minutes away from a local radio station. I'm right now 20 minutes away from another local radio station. Community radio, in particular, has been at the crux of having voices that have been underrepresented heard and communicated to communities and the world more generally. They've usually been at the center of advocacy, political reform, and political gatherings. And then it's also been a space for communities to have a home of their own. When I go to my local community radio station, what I really love about it is that I'm telling stories about science. But the hour before me is these really cute Portuguese nonnas who have their own radio show. And I'm like, I have no clue. I don't speak Portuguese, but this sounds like they're having a great time. And then right after me is this Soka Caribbean show with air horns blasting. And you're like, these vibes are so different. These different folks, people who would maybe not normally interact with one another find a home in this place. That's what I think is so beautiful about audio and about radio, to really bridge different communities. Yeah, I think that's what I meant by that.

Well, if there's anybody listening who is as inspired as I am after hearing you speak about this work, what's the one piece of advice that you would give? Because there's probably 800 pieces of advice. But for somebody who just wanted to get started with their first podcast or radio show.

Oh, one piece of advice, I'm going to cheat. I'm going to say, I'll start by saying, sorry, I love how very formal that was too. Like very Canadian, like, no, I like your question, but I'm just going to cheat. I'm going to let you know that I'm going to deviate here. But I would say that there are resources. You can go to your local community radio station. There are so many resources online. So when I was starting out, it wasn't as easily accessible. But now, my gosh, everything is online. So just do it. And going back to what I said earlier on, I had explained the story of how I got started into broad science and you'd mentioned it's a great success story. It ended up being a success story, yes. But oh my gosh, it was trial and error. It was like months of us saying, oh, just give it up. Let's not do it. This is too much work. You are going to fail. And I don't mean that in an awful negative way, but in the best way possible. You're going to fail. You're going to fail again. And you're just going to learn how to fail better. And that's true of anything in life, but specifically like podcasting. You're going to figure out what style is best for you, how to write to fit your voice. You're going to forget to record something and then cry. Seriously, this happens. You're going to make the most basic mundane mistakes. But the thing is to just keep on trying and to keep on going and to know that there are resources and people out there. So reach out, do your homework, but reach out to them and ask questions.

And get ready to fail and don't take it too hard. Well, thank you so much for taking the time to speak with us. I learned a lot. I'm sure others will learn a lot. I can't wait to keep following your work and seeing where it takes you next.

Yeah. Thank you so much. And good luck with the course, everyone.