Interview 2: Sound design 101 from Ramtin Arablouei of the podcast Throughline

[00:00:00] So far this week, we've been talking a lot about writing and thinking about the story that you really want to tell, but there's another dimension to great audio storytelling that's become a lot more important in recent years. And that's sound design. And it's way more than just like smoke and mirrors and magic. It's really about how sound can be almost a character in an audio production. Pacing, natural sound, and music scoring can really create its own environment that can help transport your listener and really bring a story to life. Ramtin Arablouei is a colleague of mine at NPR, and he's probably best known as the co-host of Throughline. It's a podcast that uses creative, immersive storytelling to reintroduce history to new audiences. And what you might not know is that Ramtin isn't just the host. He's also the producer, and he's an audio engineer by training, who worked in recording studios and in sound design and even wrote music for films and commercials. I asked him to join us to talk with us a little bit about sound design. Ramtin, thanks for joining us today.

[00:00:57] Of course, my pleasure.

[00:01:00] So when I say sound design, break down for us what that means, like what are the elements and how are you using them?

[00:01:07] So sound design can mean different things in different contexts. So in the film industry, sound design is very much defined by the sound that's added generally to films after the fact. Most of the things you hear in movies, everything from dialog to actual sound effects and other things that happen in scenes are done in post-production, so after the fact. So that's a whole kind of area. Now in the audio and radio field that we work in, sound design is generally defined as both the way a piece is mixed together in terms of the way levels and everything are produced, the music, and on top of that, the additional sound elements you'll add. So it's a much broader definition. I found, at least, in our world.

[00:01:54] But the way that I approach sound design is I approach it in two different ways. What I consider sound design is everything that's added outside of narration, so the voice of a narrator, or the voice of a guest, and outside of music. So I consider narration and guest voice, voicing basically, is a separate thing. There's music and then there's sound design. That, in our world, as I see it, is additional sounds you would add to illustrate a story. So, for example, if you collect ambient noise, if you're doing an interview with someone on location. Let's say you're at X location interviewing an expert, and you add an ambient noise that comes from that location. So either faiding it in or out of an interview or adding it to create a sense of place for the listener, so the listener feels like they've been immersed in a particular location. That I consider is sound design. Another piece within the bucket of sound design is added sounds or what would be called foley sound in film. And that's basically taking sound effects and other kinds of devices, audio devices, to create a certain mood. That's something that we do quite often on our show Throughline, where we will actually collect the sound, for example, of a revolutionary era musket. So there are some of these muskets that are still operational. In order to create kind of a scene of war, for example, which we've done a couple of times around the Revolutionary War in America. We actually go find that particular musket sound. Either a recording that exists, we'll find someone who's recorded it and ask for their permission to use it. Or we'll actually go capture a recording at a reenactment site and include that in the audio as a part of a bigger tapestry to give the listener a sense of place. So that interacts with music and often that's all called sound design in the radio world, but I consider them different things.

[00:03:52] And so, you know, you've got sound design, you've got music, you've got, you know, what I would call pacing. Maybe that's part of scoring. So, you've got your interview, you've got the narration that you've written, and you're going about assembling your podcast or your audio story, you know, depending on what you're producing. At what point do you start thinking and why do you start thinking, "Oh, I need some sound, or I need some music, or I need to change the pacing that the story is, you know, my interviewee is speaking at"? What's going through your head as you're starting to think, "Oh, I need to add some elements or change the way it's unfolding" versus what actually happened when you were recording in the field or in the studio.

[00:04:35] I pushed it several different ways, depending on what role I'm playing in that particular production. So I've worked as a producer, as a host, as a sound designer, as a composer. When I worked as a producer, I started working on a show called How I Built This at NPR. And in that show, we would do a two or three hour interview, and then we had to figure out how to make that two or three hour interview into like a thirty or forty-five minute entertaining episode or piece of audio for listeners to hear. And in that case, all of the thinking about sound, where music should come in, the pacing and all that, I kind of did as I went along. So as I was cutting the interview, so cutting down set questions and shortening them and tightening them and shaping the interview narrative, I would think on the spot about, "Wow, it could use some music here." So it was a very organic process. There wasn't a ton of mapping things out ahead of time.

[00:05:29] But what was going through your head? Like you're thinking, "Oh, I need some music." Why? You know, what what were you missing or wanting?

[00:05:35] So generally, there's a couple of things. A lot of it, to be very honest with you, is just done on instinct. It's done on feeling, right? You can almost feel there's an empty space here that could be filled by it. But I think a lot of times it's what the person is saying. So if there's a turning point in the narrative, so if someone is telling their story and something dramatic is happening that's turning the story, often the music can be used as kind of a device or punctuation to take you either from the beginning of one story into the next or really ending a story. So, for example, if someone is telling me about a moment that they had an idea, generally what I try to do is something a little bit unpredictable, where I'll pick a spot where I know the narrative is about to change. Usually slightly...I like to do it slightly before, where it's not so predictable. It's not like, "And then I had an idea." Boom. You hear music. But I try to pick spots that are a little bit asymmetrical or that will surprise the listener. But what I do is I allow the narrative change to really dictate where the music comes in. And that's really important for me is that the music ultimately, and the sound design, should serve the narrative. So in that case, as I'm creating, cutting the narrative, I'm figuring out spots and moments of pivoting. I don't love that word. But when stories pivot or change, I like to do that. And then often music can be used to either speed things up or slow things down. As you said, with pacing. So if there's a very contemplative moment or someone is telling a really sad story or something that is really like you can almost hear their brain churning as they're telling that story, often people will race through it. You know, even I talk really fast. So I think someone can be saying something really deep. What I like to do is really slow them down by actually taking bits of their audio, spacing it out, and allowing the music to kind of fill in the spaces where they would have left their spaces if they had spoken a little bit slower. So I use it in that way. And in some cases, if someone is talking about like, for example, we rush to the airport to get there right on time. Sometimes I use music to kind of give you a sense of that urgency. So usually the music is used to create a mood or to accentuate a mood. But again, I like to let the story dictate that.

[00:07:47] Now with Throughline, we approach our stories... Like we do storyboarding, for example. We approach them like their films. So in that case, we know ahead of time that we need sound design in this section because we're building the scene out to do that. And in those cases, it's a much different ball game, where the entire thing is scripted really around moments and scenes, just like in a film. So if you know you're going to have a really pivotal scene, you know you're going to need music there, or you're going to need sound design there to create a particular mood or feeling. You know, we could play one example from an episode we did about the history of mosquitoes. So we did an episode to look at how mosquitoes have changed and altered human life, which they have. I think that's one startling statistic that people often hear, is that half of all human deaths can be attributed to mosquito-borne diseases through history. That's the estimate of several different scientists who have come up with that. People have died throughout history from mosquitoes. So that was the premise of the episode. And we had a particular scene where we basically had a story that was written during the Roman era, and it was describing the Pontine Marshes, which were marshes north of Rome, that really protected Rome in a way because they were essentially like filled with mosquitoes and disease and stopped many invading armies from coming in. And that scene, you know, we could have just played the reenactment of that audio, so it was someone who was basically dramatizing something that had been written a very long time ago. But what we decided to do is create a musical and sound motif that created a sense of mosquitoes swarming around you. We wanted it to be kind of fully immersive. And so we did a lot to play with both sound and also the stereo field. So what I mean

by that is what you hear coming out of your left and right channel on your headphones. And we can play that clip really quick.

[00:09:50] So what you're going to hear right now is just the intro for the first part of this episode.

[00:10:07] The Pontine creates fear and horror. Before entering it, you cover your neck and face well before the swarms of large blood-sucking insects are waiting for you in this great heat of summer. Between the shade of the leaves, like animals thinking intently about their prey. Here you find a green zone, putrid, nauseating, where thousands of insects move around, where thousands of horrible marsh plants grow under a suffocating sun.

[00:10:50] The Pontine Marshes are roughly 310 square miles of marshland just east of Rome. Essentially throughout history, they were one of the malarial hotbeds of Europe. In fact, Europeans generally call malaria "the Roman fever." Ancient scribes recorded the symptoms of this Roman fever. So it's a very cyclical timeframe of when you get chills, fever, sweat, feel fine and starts all over. Chills, fever, sweat. You're stuck in bed. Feel fine. Alternating between pain, chills, fever, sweat and relief. Feel fine. But eventually, you get what they call cerebral malaria, which is essentially a swelling of the brain. And then you go into a coma, and you die.

[00:11:37] So basically in that clip in just a couple of minutes, what we wanted to do is create this sense of fear, the sense of urgency and the seriousness, which malaria has meant and diseases borne from mosquitoes have meant for human beings through most of our history. And just in a couple of seconds, you get a sense of how important was to the Roman Empire, and it's telling a lot in a little amount of space. And we wanted to basically evoke a feeling of...We wanted to make the listener uncomfortable for a couple of minutes. And that was the intention, and that's why we used the sound the way we did there. If you noticed, there was probably eight or nine different layers of sound. One of them was the main one, was actual sound from the Pontine Marshes in Italy that we gathered off of YouTube, actually from people who had filmed there. And what we did was we basically use compression to make everything sound louder, and more immediate and close. And then we used some mosquito sounds that we could get off of sound libraries we have access to. But what we did was we layered them, so there was about seven or eight different layers of mosquito sounds on top of one another. And some were pan to the left some were panned to the right. You probably could hear a little bit of panning from the left to the right. And all of that is to create a very immersive experience so that for just a minute, you may be fooled into feeling what it would be like to be there.

[00:13:12] Because there's this heaviness at the open, and then there's, you know, you had the kind of the pulsing of the music. It was very ominous. And, you know, so as I was listening I was thinking to myself, "Well, there's nothing really all that traumatic in what, you know, the voices are saying." But overall, through your use of sound, it became this very tense, a very heavy kind of atmosphere. Is that an example of like how you take, you know, perhaps some tape that's just kind of meh and actually give it this level of drama and urgency?

[00:13:46] Yes, absolutely. Like, if you heard that dry, which, you know, I can play for you now.

[00:13:54] The pontine creates fear and horror. Before entering it, you cover your neck and face well before the swarms of large, bloodsucking insects are waiting for you in this great heat of summer. Between the shade of the leaves, like animals thinking intently about their prey.

[00:14:14] When you hear that dry, you hear the voices, and like you said, there isn't anything inherently dramatic about it. But when you play it on top of this soundscape, you almost get a sense of just how serious those words are about what the Pontine Marshes are like. Because in some cases, you know, it's this challenge that always comes in sound design, which is you don't want to lean too heavily into a dramatic moment, and then in some cases, you can help create a dramatic moment. So if there was something really sad and serious they we're talking about, we may not have leaned so heavily into the sound, if that makes sense?

[00:14:51] No, it does make sense.

[00:14:52] You don't want to overdo it. So I think it's something I always talk about, which is restraint is as important as laying it on. For our show, because we do go really hard in the direction of sound and sound design and cinematic soundscapes, our constant challenge is figuring out like when to dial it back and went to hold back.

[00:15:09] Right.

[00:15:10] So in that case, it felt like it was a moment. We knew that the soundscape was going to be there before we knew the voices that were there were going to be there, if that makes sense?

[00:15:20] No, it totally does.

[00:15:21] Yeah, so we knew ahead of time that we wanted to start with the soundscape of the Pontine Marshes to start that part of the episode. Everything else went on top of what we knew we wanted in terms of the sound, if that makes sense.

[00:15:36] Sorry to interrupt you there. How do you keep it though from sounding cheesy, like you raded a sound effects library? I mean, what are some of those things you weigh to make sure that what you're doing with the sound is actually supporting the story you're telling versus the sound just becoming like lipstick on a pig?

[00:15:53] Yeah, it's a great question. So what we generally try to do is make sure that... Well, this comes down to taste, but it also is a philosophical thing. We want the sound to feel natural, and we don't want them to sound too clean. Because for us when things sound too clean if you're using like a mosquito sound, in that instance, those mosquito sounds were run through distressors and compressors. They had reverb and delay on them. All of those tools are used to basically dirty up the sound a little bit. Because for us, when the sound is a little more dirty, a little more hazy, it blends in with the sound a little bit more and causes less direct attention to it. So what we didn't want is for the listeners to listen to any one particular mosquito sound. We wanted it to basically be a wall of mosquitoes that are growing, growing in intensity and creating a kind of air, or an environment, or a vibe, or a mood versus a particular like, "listen to this sound here, then listen here." That, the latter approach, the kind of calling attention to particular sounds in aggressive ways is kind of old school radio. It's what you might hear in old school radio theater, which is fine, but it's not what we wanted to do since the stories we're telling are way more based in history, and they're actual real things that happened. And for that reason, we like to use all the tools at our disposal to dirty up the sound as much as possible.

[00:17:17] So are there ethical considerations, you know, particularly since you're doing a podcast that is really based in journalism? I mean, have you run into any ethical dilemmas when you're thinking about your sound design, and use of sound, or even the mood you're creating with music?

[00:17:30] Absolutely. I think it's another big challenge for us. We have a lot of rules. Well, not a lot. Kind of maybe guidelines that we've used that we've developed. For example, in our very first episode, we had a segment of our episode that had a lot of sound design that we created and then a kind of sound design...So in a particular part we're talking about some people who were in a safe house dialing the radio to a certain dial to hear a really important news story that was happening outside of their safe house. There were real clips of audio from that time, like radio clips, mixed with a fake dial tone sound that was accurate from that time, but it wasn't actually the sound in the room that those people would have had versus the radio story was actually what they were listening to. So that mix of like actual archival tape from a certain moment and sound effects going together, that's something we don't do. So after that first episode it was kind of a discussion that we had with our guidelines, and I think, a really legitimate flag, which is you don't want to lie to the listener. Right? You don't want to fool them into believing that like the archival sound, a real sound, an actual real thing that you're playing for them, was mixed with certain sound effects and they're part of the same thing. So that's the biggest rule. The biggest thing we try to do is make sure that what we're playing is not a lie. So in the instance of, you know, I think we trust that the listener knows something from the 1700s, there's no actual tape, so what we're doing from that time is something you're hearing is a recreation or drama. You know, something is being dramatized. But when we play modern, real sounds from radio or from television that are

archival, we are very careful about not using sound design around those pieces of tape because it does create an illusion that we don't want to create for the listeners.

[00:19:22] And so there's a lot to this, you know, that you're thinking about and trying to accomplish from the ethical considerations to making sure it's just sort of the right sound and that it's doing the right thing for your story. And you're working with a lot of different elements. How did you learn how to do this work?

[00:19:37] So for me, my journey to coming to this particular work was a long road, but I guess it's very unique in terms of my past, and my background, and how I landed here. So I started as a musician. I never worked in journalism at all in my 20s, and then I started to work. And I got a big break, and my big break was actually in 2012. Bob Boilen from NPR came to one of my shows that I played in a band. I write music for a local DC band, and he came to our show and really liked it and put us on All Songs Considered, which is a big NPR show and was kind of the predecessor to Tiny Desk. And we got calls from managers and, you know, other folks, so pretty soon I started getting opportunities to write music and do sound design for movies in L.A. and for commercials. And I learned on the job there, so the only thing I've ever had training in was in actual audio engineering. But everything else is stuff I learned kind of on the job, so I was taught by people who had a lot of experience. And it was something I had learned as I went along, and I got to experiment and get better at. So by the time I landed at NPR to work on How I Built This and create How I Built This, I was just learning how to produce audio. I was learning the journalism side on the job just like I had learned in sound design. So for me, it was combining those skills. And when I connected with Rund Abdelfatah, who's my co-host and co-creator and co-producer of Throughline, we had these kinds of skills that matched up. And she hadn't had as much experience doing sound design, and she's not a composer. So those things she kind of learned from me, and I learned a ton from her about storytelling, and journalism, and how to construct this story, and how to write. And so our skills kind of matched up and we've both gotten good at both of those things.

[00:21:26] So the sound of Throughline, in particular, has been an experiment. It's an ongoing experiment. It's fun. You know, we try to make sure that we always feel like we're playing to some extent and not feeling like we're formulaic or locked into any particular kind of design for our show. So it's something we're learning and we're getting better and better at it. We've experimented recently with an episode on the Great Depression, where it was essentially radio theater in that we had the journals of people who lived through the Great Depression read, and we created sound design around all of that. So it was an entire mood created throughout the piece, and so we're learning as we go. And so my background as an audio engineer and as a musician and a composer has really helped me shape our show, or help me be a part of shaping our show, and shaping the rhythm of the show. I think, just to blabber on here for a second. One of the things I think is most important for audio storytelling is rhythm and pacing, as you mentioned before. And rhythm is really important because it's something we often overlook, but even if you're doing a story that has no music, that has no sound design, the spaces in between when someone's speaking or what you choose to keep in and out, create rhythm. and you can almost hear it and feel it. It's something hard to describe but easy to feel. And that's really important to keep the listener engaged. There is a show at NPR Planet Money, which I really like, which generally doesn't use music, but they have a really good sense of rhythm. If you listen to that show, when things come in and out in itself has its own musicality, if that makes sense? So my background in music, I think really has helped me a lot with thinking about rhythm, and pacing, and how to keep listeners engaged and keep things moving when you're listening or creating an episode.

[00:23:16] I'm guessing rhythm and pacing is going to be one of your answers to this next question, but, you know, stop me if I'm wrong there. For the folks in this class who want to try their hand at telling a story that has some level of sound design and some of the finesse of thinking about that audio landscape, what are three tips that you would have for them?

[00:23:36] So, yeah, you predicted right about rhythm and pacing, so I'll save that one for last. I'll start with, my first bit of advice is always at every point when you decide to use sound or music or audio, ask yourself why you're using it and justify it. You have to have a justification for using it. Always. And what I mean by that is if someone comes and asks you, well, "Why did you use

music there, or why did you use sound design there?" You should have a really well thought out answer for them. If you don't, then don't do it. Then just hold back. Because often I think that's a trap you can fall into is that you just want so much sound, and you feel like the listener will get bored. But I think you have to trust your listener to some extent and trust that even if they're not consciously thinking about it, they'll wonder why am I hearing music here or I'm not hearing music here. So that's the first thing is just always ask yourself why and have an answer before you do it. I know it sounds super basic, but it's something I still do even after having four or five years of experience doing this.

[00:24:43] The second piece is always do the unexpected thing. Try not to do the predictable thing. What I mean by that is if you're gonna do a story, let's say, about a riot that happens in the 1940s, don't use like bebop or jazz because that's the music of that period. That's a really...I think the reason why I'm saying that is that it's really tried and true method that I think is boring now. It's been completely overused and played out, and it's something that I urge people to never do. So in that instance, think about what kind of music you can use to surprise the listener, to create a mood that's appropriate but comes from a different musical genre. So in the case of Throughline, you'll never hear it, generally, I mean, maybe very few...someone could probably pick out one instance, but we generally do not use music from a time period. And we try to use music from different time periods that create a mood. So we'll do a story about something that happened in the early 20th century, and I'll write a musical piece that has a lot of electronic dance music elements to it, or use kind of experimental electronic music. Why? Because I think it can create the same mood, but the juxtaposition of narrative, and music, and sound design is what I think creates excitement when listening to a story. It's what a show like Radiolab does really well, which is don't do the predictable thing. And the listener, there's an unconscious excitement and almost like I need to sit up and listen. I mean it almost catches their attention when you do that, and I really recommend that. There's one television show that I love called The Knick. It was a produced by Cinemax and Steven Soderbergh directed it that was about the hospital at the turn of the 20th century in New York, the Knickerbocker Hospital, which was a real hospital in New York. And all the music is basically modern electronic music. It's all synthesizers, and it works because it almost releases you from hearing the music of the time. It almost releases you from being too comfortable in that moment and having to really consider what you're seeing on screen. And I think that music has that same power. So that's my second bit of advice. Never do the predictable thing in your music and sound choices. And that also goes, I'll also add, that also goes for when you're deciding when to bring in music. Often the kind of traditional newsmagazine, at least in our field method, is someone says something about a particular topic, then you hear it. I have a great editor. I had a great editor at How I Built This named Neva Grant, a longtime NPR veteran, who always taught me like, don't do that. Always do the unpredictable thing. So bring the music in or bring the sound design in before you hear any kind of mention of what that's supposed to be highlighting because that also creates that same kind of discomfort or asymmetry that is, I think, really addictive for listeners.

[00:27:36] And then the last thing pacing. I'll make this one quick. Pacing and rhythm, as I said before, you have to always consider that because your number one goal, I think, as a sound designer or composer, is to lift the urgency, lift the immediacy of a particular story. And part of that is to make it entertaining, to make it feel like it has character beyond what you're actually hearing. That there are layers to what you're hearing. It's like if you're writing a book, plots and subplots and metaphors and these other things are used to create layering, to create a kind of depth to the storytelling. In my opinion, that's what a sound designer or musician or composer's job is. And one main tool you can use for that is the way you think about pacing and rhythm.

[00:28:26] Great. Those are three amazing pieces of advice. Thank you. Finally for the students in this class who are just interested in general about audio storytelling and where it's going, do you have any advice if you know somebody is interested in really pursuing a career in this and trying their hand and working in this field? What did you wish you knew, or what should people be thinking about?

[00:28:47] So there's a couple of bits of advice I give to students or interns or whoever ask me about this. The first is do the work. So what I mean by that is practice. I think the only thing that I've learned on this job is that there are very few people, if any, who are born to do this work or who just have it. You know, it's not like... In basketball. You know, I was a basketball player

growing up, and it really helps to be six foot eight when you're playing basketball. Right? There is no equivalent of that in this field. You just have to do the work. There's no natural talent that you're going to be born with, and what that means is repetition. So if you're just starting out and you want to kind of do this work, my advice to people is always just interview one of your friends about something really important to them. Right. Get them to agree to it, and then figure out a way to score that in sound design and to make it sound good. Practice. Grab audio. Just get in a digital audio workstation like Pro Tools, or Ableton Live, or whatever you can afford, or Audacity, which is free. You can download it online. And just work and work and practice and practice and practice. It's the repetition that makes you not only get a better touch for things and develops your instincts, because a lot of what we're talking about, I tell people all the time, is no one can teach you. You have to learn by doing it. And so that's the first thing is just do it. Repetition matters.

[00:30:12] The second thing I always tell people is beyond just kind of repetition, it's having the humility to constantly, constantly, constantly be open to critique. I've seen the most successful people, the people I really admire in this field, are the most receptive to someone saying to them, "I don't really think this works. You could try it this way." Or being open to kind of being edited, essentially. Right? In our field, there are editors, and I feel the people that are most open to that. Or a kind of a sports metaphor would be, be open to coaching. That to me is what sets people apart when they're starting out particularly. You're only going to get better if you're really willing to hear the person who is trying to edit and coach you and make you better. So those things I always tell people are the number one things. If you have those starting out, you will get better, better and better rapidly.

[00:31:13] And then I guess that the final thing is make sure that whatever you're doing, you have fun doing it. One of the things I've also noticed is that I've only gotten better when I've enjoyed it, what I'm doing. So if you start out in this field and you're not enjoying it, you have to figure out why. Are you not kind of working in the right area? Are you not specialized? Maybe you enjoy writing more than sound design, and perhaps that's what you should do. But really find something that you enjoy because you'll only do it and you'll only get those reps that I talked about earlier if you actually like it.

[00:31:45] Ramtin, thank you so much for joining. This is really great.

[00:31:48] My pleasure. Thanks for having me.

[00:31:50] And if you want to hear the work that Ramtin does, you can, of course, find Throughline anywhere you usually get podcasts, and you can learn a lot more about the show and Ramtin himself at NPR.org.