FERMYNWOODS CONTEMPORARY ART PODCAST
EPISODE 16 - MAYA LIVIO

<birds are sofly singing>

Marie-Chantal Hamrock: Welcome to the Fermynwoods Contemporary Art Podcast, guest curated and presented by SUBTERRA. I am your host and one half of Subterra, Marie-Chantal Hamrock.

<gentle harps begin to play>

We invite you to get lost in the unknown as we take a stroll through rich woodlands, dark forests and subterrestrial landscapes. As we navigate these eerie and unfamiliar spaces, we will explore artist talks, discussions, and original commissioned sound art.

Marie-Chantal Hamrock: In our last episode, featuring the work of Samm Anga and Veronica Petukhov, we began our exploration of Xylophobia – the fear of wooden objects or forests.

Today, as we delve even further into the woods, we'll be hearing Salvaged Birds: a Sonic Essay' by Maya Livio and JP Merz. Following on from this, we are joined by Maya to discuss her work in her work in greater detail.

Maya Livio is a researcher, media-maker, writer, and curator living in California. Her justice-oriented, interdisciplinary work probes at the contact zones between ecosystems and technological systems, investigating multispecies living and dying on a networked planet.

Through the use of what Maya calls expanded nonfiction, she constructs a haunting and lyrical sonic essay containing a chorus of both human and non-human voices. The work draws attention to the biases and misclassifications within avian conservation datasets.

Here she has set a research-driven essay against sounds generated by an AI which was trained on specific datasets, particularly ones from the Cornell Library of Ornithology's Macaulay Library. By using machine learning to speculatively queer birdsong datasets, the work complicates datafied approaches to conserving what and who is left of our world.

<Salvaging Birds: A Sonic Essay by Maya Livio and JP Merz>

Marie-Chantal Hamrock: I just wanted to thank you so much for being here. And for such a generous contribution to the podcast, it was such a joy to listen to your work. And I'm really looking forward to discussing it with you! Because it was such a kind of beautifully constructed account of what was both a comprehensive and informative but also like poetic and deeply lyrical and layered with so many different kinds of voices, both human and non-human. So that was just such a kind of fascinating thing, to get lost in the world of like, what is kind of a conscious entity that speaking or singing and what isn't. So that was really great. And I wondered if maybe you wanted to give like a brief overview of the project at large that you're working on right now? And just to give further context to *Salvaging Birds*.

Maya Livio: Sure, yeah. First of all, thank you. Thanks so much for the invitation. And thanks for the lovely words. And, yeah, I mean, this has been this kind of funny multimodal project, where it started with the writing and and then yeah, it became very clear to me that I needed to do some kind of intervention that in thinking about bird data sets, I needed to feel like I was making a material intervention. And using also the material of the bird data sets, and in a way to that, not just illustrates, but kind of complicates or adds to the questions that I'm thinking about in the writing. And yeah, so this is kind of, I've been playing with different ways that this could live.

And this was actually my first time producing an audio only work, so thank you for the opportunity to do that because that's yeah, it was interesting, to think with sort of just that channel, as opposed to film or something where there's multiple modes. And, yeah, I think I will be making a film as well. That will, you know, kind of, it feels like I'm, yeah, building out, sort of starting with the writing and now, and then there was some sonic work. And this was sort of like a deeper dive into the sonic work. And now I'll be diving into the more visual work. I've already done some commissioning of visuals from *Cassie McQuater,* whose image I shared along this piece. But I'm also going to be training an AI on visual material to kind of build it out. So it's been an interesting, like, rhizomatic, or, you know, expansive growth of this project.

MH: Yeah, it's like a whole kind of constellation or family of different media coming together to, to make this world almost. Yeah, and that's really interesting. That was your first time, was it like your first time recording your voice with AI?

ML: I've recorded my voice for one other film, short film, which was very different. Because in that I was sort of deliberately trying to sound monotonous a little bit and this was my first time trying to be more expressive in an audio recording, so that was interesting. And props to all the podcasters <laughs> who do it regularly because I'm not a voice actor.

MH: It was great!

ML: <laughs> Thanks. It was definitely my first time sort of playing with layering this kind of sonic material with a narration.

MH: Yeah. And you know, what you spoke about with, like, how writing was the starting point for this. I'm really interested in what you described as *expanded nonfiction*, and the role that that plays in kind

of revealing the gaps and exclusions within avian data sets. So I was wondering if you could talk a bit about the idea of expanded nonfiction as a creative tool and the potential that it might have? Because I'm personally fascinated with speculative fiction myself.

ML: Yeah... It's interesting. I haven't had much opportunity to talk about expanding nonfiction yet so this will be an opportunity to rehearse the language around it, but... I mean, the idea for expanded nonfiction came to me from thinking about other kinds of expanded genres. So for example, there's... or media, I should say there's a kind of constellation of works around expanded cinema where folks make film that lives outside of traditional cinematic contexts, like outside of the movie theatre, and often has auxilary or adjacent parts may be an installation in the space in which you're watching the film, or maybe something else, right, that kind of, yeah, takes you out of the flatness of the of the screen and makes it more about space. I was finding in my work that I always... Writing is where I'm always starting and it's always starting from the sort of creative nonfiction place, and I was. Or sort of traditional scholarly research, but I've been trying to lean more into the creative nonfiction, and finding that infusing some of myself in the writing seemed to add a dimension to the sort of research that I was doing.

And so... but yeah, my background is in media arts, or at least it's part of my background. And so writing was never quite enough. And so then thinking about, yeah, how does... How can the writing be augmented? How can the writing not just live in the world of creative nonfiction and the world of books, but maybe move into other spaces? And I wanted to see, you know, there are other folks, I haven't heard anyone use the term expanded nonfiction, but there are certainly other folks who I have seen working in these modes, I think, this sort of research creation practice based research has had, like a bit of a problem still and trying to figure out where language fits in. And so this was my solution to the problem of where language fits in is to centre language, but included among other elements. Yeah, hopefully that answers your question.

MH: Yeah, for sure. I mean, I think especially coming from like an academic background, sometimes, it can be hard for it to find its place, but there's like, it allows for so it has so much potential, I think, as a creative tool, and it's kind of naturally or, like, inherently, what's the word I'm looking for... Kind of activist? You know, it's quite a powerful, powerful thing to do. And it's really exciting to see the, you know, the kind of the revelations of like, of the intersex birds and, you know, these... The queering! That you called it, that was.. Yeah, really, really fascinating. And so you've been talking about, you know, training the AI, which is really interesting. And I was wondering about the the kind of threshold of influence that you can wield over the final product of what it produces. How much influence do you have over what comes out at the end?

ML: That's a really excellent question. And one that, yeah, needs to be asked more in AI driven works, I think. See... The answer is... Well, it's complicated because I didn't design the model, right? So, I'm using an existing model. In this case, I'm using an audio generation neural network. It's called a *SampleRNN*. So someone built that. And in order to refine that model, they trained it on various data sets, and audio data sets. And I'm, you know, and I kind of gestured towards that very briefly in the piece of how there's bias in those trainings as well. So the model itself is going to favour particular kinds of sounds, it's going to make particular choices based on how it was trained, and I have no say in that, but humans did have a say in that it just wasn't me. And then with what it produces. Yeah, I mean, it's really kind of a... it feels like pulling a lever on a slot machine and just like, hoping for the best and seeing what comes out.

And what it produces... a lot of what it produces is garbage, or at least sort of garbage to me, right? Garbage for my needs, maybe someone else's needs might be different. And the more you train it, the more it gets refined, but then also like the more homogenous it becomes. And so it's about also finding a kind of line of how homogenous do you want... With the training on the classical music, you'll hear that there's a lot more variety, because there's a greater diversity of kinds of sounds. But with the birds actually, like they all just start to kind of sound like the same bird the more you train it. So there are decisions that I'm making there. As far as, first of all, what what data sets am I inputting, right? Like, which birds am I putting in or whatever. And then, kind of how many times does it get run, and when do I stop. And then the majority of

the creative decisions happen with using that material then and how that gets used. So, you know, I would say that, in this case, at least, with the birds, it's mostly outputting, sort of just, you know, sounds and those sounds that need to be put in relationship to each other in more of a compositional sense. With the music, it's a little easier, because what it puts out already sounds a little bit like music, and you have to do maybe a little bit, I mean, you still have to do some shaping, but maybe not quite as much. So it's definitely... I hesitate to use the word collaboration because I hesitate to give more sort of like sentient qualities to AI, I think that's still too risky to do, but it's certainly a back and forth process of where there is sort of, where I have control and where I don't.

MH: Yeah, it was actually that was one of my questions is like, I was going to ask you, if you saw it as a creative entity in itself, or if it's just a tool for now that you're using that kind of feeds you back information that you then use to produce your finished piece.

ML: I think that while I find some folks's discussion of computer intelligences, let's call them, as being sort of equal to, or in the same realm as other intelligences, not our human and nonhuman intelligences. I think that I've, for myself, made a decision that ethically it doesn't sit well with me to conflate these technologies with humans and nonhumans, especially when so many humans and nonhumans have not yet been fully awarded the status of a being who deserves respect and rights and livelihoods. So I kind of actually draw a pretty firm line about blurring those boundaries. I also don't talk about nonhumans as collaborators for that reason. But yeah, so I would say a tool for me personally.

MH: Well, that yeah, that's like, obviously most people don't have any experience working with artificial intelligence. Apart from those like things that trend on Twitter, where you insert, like two different names, and it creates an image, which can be hilarious.

<laughter>

ML: Super fun! But, yeah...

MH: Yeah, I don't see that as being a creative entity. But yeah, so it was... It's just nice to hear someone who is actually working with it. And in a really kind of.. what seems like quite a rigorous way.

ML: I'll say also, sorry to interrupt, I'll just say also that even using the term AI is like, it's shorthand for a thing that helps people to understand but maybe gives these particular tools like too much weight.

MH: Right.

ML: I think saying neural network or saying, machine learning as a kind of broader category is more accurate than say AI, but AI is like, what people have come to know and understand a little bit more so yeah, so I do use AI sometimes. But just to flag that as like, even another space where nuancing might help.

MH: Yeah, so you're dealing with lots of different kinds of bias then because you've got the bias in the recorded bird song and like the kind of exclusions and gaps and misclassifications within that. And then you've also got the the, well I'll say AI, that you're working with, that also has its own bias and its own... Yeah, I guess bias is the best word to explain. And so, it's fascinating that then it creates this final output that you're re-imagining. And of course, you've got your own biases as a person as well. So it's like three layers of distilling all of this to create something new into this kind of expanded nonfiction form. So it seems like such a kind of intricate process, and then to go from that to even distilling it even further to pick the ones that sound like what you would like them, it's almost like I imagine it trickling down into something.

ML: Yeah thanks, that's an interesting... I haven't I haven't visualised in that way. But thank you for that framing.

MH: Yeah, I think that the music at the end was a really interesting kind of move from, you know, your narrative at the beginning, or for the most part of it. And I just wanted to comment on the kind of pauses, the kind of pregnant pauses that happened every so often where the mechanical sound would stop the the flautist would stop, and then, and then you would hear their breath as it all began again. And yeah, I got goosebumps listening to that. It was yeah, it was great. So great.

ML: Well, that wasn't me, that's *JP Merz*. I mean, I was definitely kind of artistic director of the project, but I will claim no, none of his composition skills he... Yeah, he did that. So credit to him. But yeah, and *Yoshi Weinberg*, the flutist, is wonderful so...

<Clip from *Salvaging Birds: A Sonic Essay*>

ML: These trainings were intended to represent a kind of stand in for these missing birds, and in that sense, maybe it's okay that they're homogenised into a more singular voice. But, but I did wish there was a little more sort of, you know, more diverse representation and kinds of bird sounds that the AI would output. So I might do some more sort of individualised trainings. But I, for the film, or whatever, it will be something with visuals. I'm also intending to train on the... So you might know of *Audubon*, the bird illustrator. He's like...

MH: Oh, yes! Actually they just had an exhibition of his work in Edinburgh there. Yeah, so very relevant at the moment.

ML: Cool. Yeah. So he's, you know, and he produced this very well known book of bird illustrations that, at least in the US is kind of a significant text. And... and unsurprisingly, those feature either, you know, a lot of male birds for their coloration, and then a lot of sort of, male-female pairings of birds in showing this, you know, the sort of sexually dimorphic coloration where it exists. No intersex birds are in there, and some female birds are missing as well. So yeah, I'll be training visual *GAN* to produce actually, I'm going to be kind of producing video that'll be based on those illustrations, but will be... Yeah, sort of combining those illustrations as a dataset with videos and images of female and intersex birds to try to sort of generate new material in the style of *Audubon* that brings in some of these other birds, and that'll be the next <laughs> the next challenge.

MH: Sounds great! I think that the kind of contrast between the mechanical-like AI and these beautiful, intricate drawings would be, you know, really, really great.

ML: I should also say here that, you know, these trainings are not environmentally friendly...

MH: Are they not?

ML: In that they require a lot of computing power in order to produce. And that is something that I'm aware of and sensitive to, especially in doing sort of environmentally inflected work. So that's always like this, you know, debate that I'm having with myself is trying to trying to minimise the number of trainings that I do in order to, you know, not produce more carbon than I need to and also have been trying to be in conversations with folks who know more about computing hardware and to find ways of doing this in less harmful context or, you know, to at least be as energy efficient as possible. So that's something that I take seriously, but also, you know, want to call myself out on, or in on, as far as it's not, it's far from perfect.

MH: Sure. Yeah. Yeah, I guess it's hard because you're doing a service in a way by bringing attention to something but the same time you don't want to be, you know, causing damage. I guess like, the one maybe thing that I'm really fascinated by, that I gotta get out of my head, this idea of the female birds like they're... They're kind of rolling, like trying to hide, or, you know, like this, there was like this kind of, like, arcane or clandestine thing, but like, there, it just seems there's something really magical about the idea that they

have always existed and maybe been in plain sight and have been camouflaged. And, you know, to use the kind of speculative fiction or creative nonfiction to reveal it in a way that isn't harmful to them is yeah, something I've just been thinking about a lot since I first listened to the piece. And I just, yeah, I can't wait to see how that goes. I think something in art that I always find really tricky to kind of navigate is secrecy and how much to reveal and how much not to. And I just think it's that the agency that these female birds have in their non-revealing of themselves that has kept them safe from these museums and archives is... it's kind of amazing.

ML: Yeah, thank you for highlighting that. It's really kind of beautiful when you think of it in that way. And, yeah, that there, I mean, I don't want to say, I want to make sure to acknowledge that not all birds are sexually dimorphic in this way.

MH: Right, right.

ML: So, you know, some birds have similar colouring, etc. But there are a lot of especially these passerine birds who the brown birds are really kind of you know, that the female brown birds are kind of designed to be invisible. And that presents a... It highlights this challenge of visibility versus invisibility, in ways that certainly also apply to humans. I didn't want to flatten the distinctions and make comparison to humans in that way. But I was certainly thinking about folks like, you know, *Ruha Benjamin* has some really wonderful writing about this tension between being hyper visible for black folks and invisible and I think, again, I don't want to flatten those distinctions, but I think that the exploitation of all beings is an important thing to pay attention to and the relationships of violence between human and non human beings are significant.

<Clip from *Salvaging Birds: A Sonic Essay*>

Marie-Chantal Hamrock: You can find more from Maya at her website mayalivio.com. Accompanying images for this episode are at our website. There are links to all of this in the episode description.

This episode has been edited by Astrid Björklund, the other half of Subterra.

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