On the importance of transparency in technology

Artist and technologist Amelia Winger-Bearskin discusses weaving ethics into coding, getting to know the mechanics of your tools, and the importance of playing.

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As told to Mercedes Torrendell, 2639 words.

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I have to start at the very beginning. With an inventor for a father and a storyteller for a mother, is there one memory from childhood that captures what it actually felt like to grow up between them?

My father used to bring home things that were broken from the lab, things they were throwing out. He himself was a tinkerer and loved to fix things. He and I would work together to fix this train set that was his when he was a child, a metal track, a metal train, all the electronics so small that I would help him repair it. Once we repaired that together and had so much fun, we would start repairing everything he'd bring home. His dad was a mechanic, so it's the same thing, bringing home things, playing with them, fixing them, breaking them, reimagining them. My mom is not like that. She's much more a storyteller, she wants to talk to people, learn from other people.

I work primarily with photographic mediums, just like my dad. I learned to build my first pinhole camera at around four or five. I was always in the darkroom with him, either taking apart computers or building things. I thought it was so magical how optics could come from a single pinhole in a large space, like a camera obscura. I still have this wild theory that those early cave paintings of the hand were actually a type of photographic imprint, like if you held your hand in a space and light moved across it, we were making solar prints back then. The whole world as a camera.

Before any of this, you were an opera singer, touring internationally and performing Mozart at fifteen. And then you walked away from it. What made you realize you'd rather create the work than perform someone else's?

At Eastman it was so traditional, they taught us opera almost like it was the 1600s. I lived this very monastic existence. I loved my teacher, Jane McCoy. I was 15, and as a 15-year-old I was like, "When do I become like Mozart? When do I make my own operas?" I was mostly a Mozart coloratura, playing his comedic roles. But I felt more connected to Mozart than to the characters. I wanted to be like him. He innovated new instruments, new ways of performing. His whole family was in on it.

I thought, "I would much prefer to be like Mozart and create a world for people rather than just be one of the many Despinas that have performed." When I said this to someone, they were baffled. They said: "That's a whole career, to be the best Despina of your generation. Why would you throw that away?"

I think part of my impulse comes from being Indigenous and not seeing a western archetype as my highest aspiration. The greatest thing I could do is become a storyteller of my generation, rather than just an instrument

by which a story that has been told many times gets told again. No one needs me to continue Mozart's grand legacy—he's doing great, still doing great. I'm doing another thing.

Your dad handed you technology as something to play with—toys, not tools to optimize. What changes in what gets made when the endpoint is creation versus optimization?

I have never been afraid of technology because I was always given it in a state of disrepair. My dad would say, "What can you play with this synthesizer? The screen might be broken, but I think we can still interface with it this way." So I always felt more like a helper to technology. "Oh, I can get this to work. Maybe I can't make it do what it's supposed to do, but we can use it for something."

That feeling means it both needs me, and I need to help it connect with an audience. I always want to engage with technology in a way that feels like it needs us, it needs humans. It will be in service of us connecting to our community. That's what technology has always been for.

I rewatched *Return to Oz* the other day, Tik-Tok the robot, really one of the first AI automatons in literature. He's broken but he needs you. He's brave and patient and philosophical, even though he's always running down. I still use him as a way of talking about AI with my students, this early imagination of what it means to have technology that still needs us, still reflects us.

Storytelling runs underneath everything you make. And your mother was a storyteller in your tribe. Can you walk me through what that role actually meant?

When my mom was actively touring in her role as storyteller, part of it was gathering the stories, meeting scholars and tribal leaders and elders who would share stories and context. This story was specific to this side of the river because that side could see this particular vista. Knowing these contexts is so important. You're part researcher, part actor, part politician, because you have to gain the trust of people in leadership roles in the tribal nation to believe that if they share this story with you, you're going to take good care of it. And then you have to make sure it stays relevant to the generation you're speaking to.

You've said stories are the oldest technology we have. And wampum was exactly that, right? A decentralized way of recording contracts that encoded ethical values, not just transactions. Can you translate it for someone who's never written a line of code?

In 2020, I became a Mozilla Fellow in Trustworthiness in AI. In the open source world, if someone takes your code and does something terrible with it, against your values, the opposite of why you poured your life into the project, there's no recourse. A lot of us had been sitting with the same question: How do you make an ethical kind of source? That's what I started thinking about, through conversations with Indigenous creative technologists and the co-creation studio at MIT.

Wampum belts are like a flat weaving of clam shells into a mosaic pattern, made to record and hold a shared decision. The person charged with carrying the belt would travel and explain what those decisions meant for each part of the nation. It was a transparent ledger of storytelling and consensus.

Museums often talk about wampum as if it's decorative art. It's like saying paper is a magical substance by which you can make books, and the books are always about dogs. Paper can contain anything, agreements, truth, fiction, poetry, a love letter. That's how we think of wampum belts.

Wampum Codes asks: What if software worked the same way? What if the ethics were woven in from the start, not patched on later?

When you brought that into tech spaces—developers, companies, workshops—what did it reveal about the gap between how developers and artists actually think?

One of the key differences I noticed right away is that artists are very confident talking about ethics. Ask an art student about their work and then about the ethics, they'll have a statement, a thought, something compelling to say. With developers, when you start conversations around ethics, they'll often say: That's not up to me to decide. So we really have to start with empowerment. I say: What if you're the only one that matters?

One founder said to me, I don't want you to come in and tell us what's right. And I said, that's exactly the opposite of what Wampum does. It's a language for your community to say: This is what we think we're building, these are the values we think we share. You might find out that's not true. The moment he understood it was about surfacing his community's values, he said: I want to do this.

When we would do the workshops, the developers would talk the entire time. The founder said: I've never heard my developers talk. I have meetings with them and they just listen to me. This is the most I've ever heard them talk.

I watched "I Would Like to Be Midnight / I Would Like to Be Sky" before this conversation. You remove buildings from footage in every third frame, so the skyline flickers rather than disappears, using a tool incorrectly as the statement itself. How do you decide when to work with a tool's logic and when against it?

I like to know how everything works down to the smallest point. When I use technology, I choose tools whose mechanics are already a metaphor for what I'm trying to say. With inpainting, where you can restore the past, what is restoration in that moment? When I restore these images to being rewilded, taking out the human architecture, the power lines, that's my type of restoration. Rewilding, giving the land space to breathe.

But someone else could use that same tool to restore an image of a president damaged in a fire. You can take that algorithm and use it however you want. So the algorithm is already the message, this is how inpainting works, this is how I'm using it incorrectly, and that itself is the artwork.

If an artist wanted to start engaging with technology on their own terms, what's the actual entry point?

Playing. As artists, we love to be tactile and play with things, and as technologists, we like that, too. Think of your art, think of what you want to make, and find a tool that fits into what you're thinking about in your practice.

I love that often times the very first or second thing a student does when encountering a technology is their best thing, because they didn't know how to use the tool correctly. I always tell my students: Capture the first three hours you have with a new coding language, new software, new hardware. Some of your most innovative ways of seeing a tool come from that very first meeting. It's like falling in love, those first imprints set up how you'll love someone for the rest of the time. It's all serendipity. Just like love.

Was there a moment in the classroom, a student, a question, a discussion that went somewhere unexpected, where you saw clearly how this generation thinks about art, technology, and AI together?

The other day I was teaching my students about algorithms, how they're like recipes or choreography. And I thought: I'm going to show them something from the coder community, coding challenges, what we call riddles. I gave them an algorithmic riddle you could solve with code or with logical thinking. The students were like: This is weird, how can we possibly know the answer? I said: You can. We as humans have to make up what we think the answer is, test it, prove it. That's how you get a job.

Someone said, what if we made this in VR and people could actually experience which thing worked, and solve it iteratively? Their ways of thinking were so different from how a coder would immediately turn it into functions. The students said it was their favorite class. They asked: Are all algorithms riddles? And some of them are. All riddles are algorithms. What does an algorithm mean to an artist? It's a different thing. But it gives us more pathways to understand our world.

There’s something you’ve asked publicly that I keep coming back to—what is the creation story of AI? What story do you think we’re currently inside, and who’s telling it?

The story of AI isn’t finished yet. In the tech field, we often talk about something as if it’s a complete solution. Completely done. But people outside of Silicon Valley don’t realize that’s just how we talk—it’s not necessarily true. We’re very aspirational. We’re speaking in the future tense.

If you asked the story of AI from a writer’s point of view, or an artist’s, you’d get a very different story. And the truth is: It’s not completed. Their story is just as relevant as someone saying “I made an AI solution and it’s going to do X, Y, and Z.” Both are equally true because the story hasn’t finished yet.

I tell my students: You’re not required to use AI. You are just required to know how it works. Some students on the first day will say, “I hate AI, I’m against it.” And I say: Great. I’m going to teach you the best arguments you ever had for why you’re not going to use it. If you’re standing against something, you should know how it works.

Last question. You’ve been in both rooms, the art world and the tech world, in a way very few people have. If you could bring the most influential people from both together, what question would you put on the table?

What is human thriving, and how do we know when we’re thriving? If anything we’re building is going to make us not thrive as humans, then it’s worth taking a look at that.

I think people can assume there is no goodwill, that it’s malicious. But oftentimes it’s just ignorance and a lack of foresight that creates these systems of harm rather than actual malice. Way more people than I think want to make the world a better place, want to make humans thrive. And I think we often just don’t know how to connect the way we’re designing systems into the outcomes of human thriving. That’s what this next generation is going to be so good at. And I hope to empower them to be those interpreters of the interstitial spaces, to say: I know you don’t know how these things are connecting and why we have this negative outcome, but I can see it. I can untangle this. I can help.

Amelia Winger-Bearskin recommends:

Street-level intelligence. I am really interested in the kinds of knowledge that live outside official systems: subway performers, DJs, graffiti writers, mutual aid networks, aunties, organizers, people who know how a city actually works. In an AI-powered world, I think we need to take vernacular intelligence much more seriously.

Portable worlds. I love anything that can become a world in a bag: a LARP kit, a deck of cards, a strange object, a shared prompt, a sound device, a tiny ritual. I am drawn to artworks that do not just sit there, but create a temporary system people can enter, change, and carry with them.

Housing justice as an imagination problem. I keep returning to the idea that ending homelessness is possible, but first, we have to stop treating housing loss as inevitable. I love work that helps people rehearse different futures, especially through art, data, storytelling, and collective design.

Noise, vibration, and handmade technology. Right now I am excited by hacked instruments, cyberdecks for DAWs, physical computation, circuit bending, weird interfaces, and music technologies that feel bodily, secondhand, DIY, and a little feral. I love tools that look like they were built in a bedroom, a basement, or after midnight (preferably by me or my friends).

***Skunny Wundy: Seneca Indian Tales* by Arthur C. Parker.** I love *Skunny Wundy: Seneca Indian Tales* because it carries a story as intelligence: funny, sharp, strange, practical, and alive. Arthur C. Parker’s collection reminds me that knowledge does not always arrive as theory or instruction. Sometimes it comes through tricksters, animals, jokes, warnings, reversals, and stories passed from oneperson to another. It feels especially resonant now, in an AI-powered world, because it reminds me that culture, memory, and oral tradition are technologies too.

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Vocation

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