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SARAH HANSEN: I'm Sarah Hansen. In the last episode of *Chalk Radio*, we spoke with Dr. Ari Epstein, associate director and senior lecturer in the Terrascope program at MIT. Terrascope is a first-year learning community for students interested in collaboratively solving our planet's most complex challenges.

As part of their work, some students contribute to Terrascope Radio, which, as Ari says, allows them to use the power of sound as a tool for communicating ideas to a variety of audiences. Terrascope Radio episodes are shared on 88.1, WMBR, MIT's radio station. And they're just so good, we couldn't *not* share one of them with you here.

The Terrascope Radio episode you're about to hear is called **Everything Here is Sacred**, which, as the students explain, explored ways in which seemingly everyday places and activities, such as a cornfield or the meeting place of two rivers, are imbued with sacredness in Navajo culture. We hope you enjoy it as much as we did.

TONY GOLDTOOTH: [SPEAKING NAVAJO] Thank you for coming. Thank you for being here.

HOST 1: That was Tony Goldtooth, welcoming us in the Navajo language when we joined his family for an outdoor Navajo-style lunch.

Why were we joining Tony? We were a group of first-year students from MIT, and we traveled to the Navajo Nation to initially learn about agriculture. But what we learned was so much more than that. We met truly amazing and inspiring Navajo people, or Diné, who showed us that agriculture was much more than just a job. It's a central tenet of their culture and identity as a people.

One person we met was Brandon Francis, a research technician at New Mexico State University, NMSU. He showed us around the NMSU Agricultural Experiment Station, and where we got to see things like gardens of native plants, experimental vineyards, and the equipment he uses to conduct his research.

At one point, Brandon stopped us to take in the landscape, looking down the path of tan, soft soil under our feet, an artificial grove of poplar trees, now brown and bare, walled off the landscape to our left, while paler brown but equally bare fields waiting for growing season stretched off to our right. Perfectly framed between the two, seeming to mark the end of our dirt path at the horizon, was the bluish silhouette of a far-off monolith named Shiprock. This geologic structure, a remnant of an ancient volcano, is deeply intertwined with the traditional stories of the Diné, and it is considered a sacred place. Obscuring the bottom half of Shiprock's profile was the chimney of a power plant, puffing short-lived white clouds.

BRANDON FRANCIS: This is what I call the perfect image of the reservation. You have a coal-fired power plant, you have a picture of agriculture, then you have Shiprock in the background. That's what I like to say the res in a pinon shell. Agriculture, coal-fired power plant, Shiprock, that's the res in one picture right there.

HOST: Brandon also took us to the confluence of the Animas and San Juan Rivers near Farmington, New Mexico. When we arrived, the winds chilled us to the bone, the spring sunshine in late March not yet warm enough to offer any relief. The San Juan River surface was a shimmering reflection of the sky, while the Animas River was a murky brown, mirroring the bare overhanging cottonwood branches. When the rivers merged at the confluence, the water of the two rivers would flow in parallel lanes of color, only beginning to mix at their border, where the water encountered many islands of beige sand and rocks.

BRANDON FRANCIS: This is our temple. We view this part as-- this land, this water as sacred, providing life. And we pray right here, and we pray for things, because we always believe that water takes our prayers to the big water down onto the Colorado.

Then it goes into the ocean and eventually comes back to us. So it carries our prayers for us. And so every time we pray, we pray, we pray to the water. Not only do we view the river as a part of our family, but a part of our way of life. And when we grow things and we grow plants, we view them as our children, as our relatives.

And when we're watering them or when we're tending to them, we always talk to them. [NAVAJO] you know, grow my little one. And we treat them as family.

HOST 1: But what if the water is contaminated? We learned about the Gold King Mine Spill that happened in 2015 when a mine in Colorado spilled toxic wastewater into the Animas River, where it spread to the confluence and much of the San Juan River downstream, turning the waters caution-tape yellow. Farmers relying on the San Juan River for water were forced to shut down their irrigation lines.

BRANDON FRANCIS: So when the Gold King Mine Spill happened, and they shut off the water for a lot of Navajo people. For a lot of Diné people, it was like watching their relatives die, out in the field and die of thirst, wither and die.

[MUSIC PLAYING]

HOST 2: After our stroll with Brandon along the river, we headed to the Lane family farm owned by Gloria and Harry Lane. Through the farm, Gloria and Harry aim to teach Diné culture and traditional farming. The farm consists of a one-story house painted a light tan that almost camouflaged with the surrounding soft, khaki-colored soil.

The house overlooks the San Juan River and a plot of farmland, which was clear of weeds when we visited as the family prepared for the upcoming planting season. There, standing next to the field, we met Kevin Belin, director of the Diné Bizaad Institute at the Navajo preparatory school, who extended the ideas of sacredness Brandon mentioned earlier.

KEVIN BELIN: You hear that from Native people, oh, everything is sacred. Look at the ground you touch, it's sacred. That river there is sacred. Those trees, the birds, look, feel the sun rays, it's sacred. It is. It truly, truly is.

HOST 2: For Kevin, one particularly sacred plant is corn.

KEVIN BELIN: We were told that our bodies are made of corn. When we were created, we were told this is what our bodies were made of. This is how we are going to interact with the world around us.

When you're creating a corn field, you're creating life. When you plant that seed, sperm, egg, when you're creating that field, you create your home.

HOST 2: To Brandon and Kevin, agriculture is not just a means to an end, a way to deliver food to the grocery store for the convenience of modern society. Even though there are challenges-- waking up before the blazing sun rises and removing weeds in the blistering heat-- practicing agriculture is a fundamental part of who they are as Diné people.

KEVIN BELIN: For us as Diné people, you have to have a passion for growing corn. You have to have the will. You have to have the motivation to come over here, look at this piece of dirt, and think it's going to be productive. You have to have that mindset that this land here, I'm going to have to work it to ensure we have food.

HOST 1: And while some of us were listening to Kevin, others of us were talking to Gabrielle Henderson, also known as Gabby, a New Mexico State University undergraduate student who also volunteers her time at the Lane Family Farm. So why does she put in the time and effort to help with farming?

It all started with Gloria and Harry's daughter, Nonabah Lane, who unfortunately passed away six months prior to us meeting the Lane family. But in her lifetime, Nonabah was an educator and environmental sustainability specialist, who also became a role model for Gabby.

GABRIELLE HENDERSON: So how I personally got involved with this was through Nonabah. She's kind of been there for me since childhood, making cookies. And she was just a really, really outgoing person.

She would travel everywhere. She told me everything about it. And that was when I was a little kid. And then when I got into high school, I came home mature, I guess-- not really, but a little bit. And I got to know the way of kind of like the farm.

But then when Nonabah would tell me about these opportunities and these stuff about the farm, I wouldn't be intrigued by it. I would think about it, but then I would just be like, I don't have time for it, when really, I did.

But now, when she passed, it's just like, it really affected me, so I needed to be more involved. And I wanted to do something more with my life, I guess.

HOST 1: So Gabby got her start in the place where we met her, the Lane Family Farm, currently managed by Nonabah's parents, Gloria and Harry Lane, and her brother, Bruce Lane. And although we never got to meet Nonabah ourselves, she's continued to have an impact on those around her.

GABRIELLE HENDERSON: I was just like, yeah, I can do this for her. And I also noticed that the farm needed help because Gloria is kind of getting old, and Harry is getting old. And I was just like, I just need to help them.

So I first started here, and I would just come here for maybe three days a week for maybe a couple hours. But then Gloria got me connected with Dr. Lombard from NMSU. He works at the Agriculture Center. And I got an internship over there, too. So I just started there, I think, December. And I'm learning new stuff.

HOST 1: And while the Lane Farm continues operating, both as a farm and the center of the Navajo Ethno-Agriculture Program, co-founded by Nonabah, Gabby is slowly but steadily making progress with her own projects in agriculture.

GABRIELLE HENDERSON: I'm learning pruning. And I'm learning seed planting with different experimental seeds, I guess.

[MUSIC PLAYING]

- HOST 2:** While Gabby is working on growing food, others are working on how to get the food from the farm to the table.
- DANIELLE**
GOLDTOOTH: We're very happy that you all came out to visit us today here at our new little farm area, where we're going to be putting together some new and exciting things, hopefully.
- HOST 2:** Danielle Goldtooth and her partner, Alan Moore, became involved in food sovereignty and traditional Navajo cuisine because of one particular food, hamburgers.
- DANIELLE**
GOLDTOOTH: He likes telling the story, but I'll tell it this time. We were cruising through Phoenix, and we were stopping off at a burger joint to get a hamburger. And it's a local place, maybe about a year ago or so.
- And we go in, and they're like, well, we don't have any beef. And we're like, we have supply chain issues. And we're coming from working as a slaughterwoman and a butcher.
- So we were very befuddled. We're like, we just came out from where these people can't even sell all of their cows right now. What's going on here? How am I not having beef 50 miles away from where I'm also processing this?
- Something here is not right. Why is this not closer to home? Why are we not having beef where we should be having it?
- HOST 2:** But it wasn't just a supply chain issue. Danielle and Alan also noticed that the farmers in their area were getting older.
- DANIELLE**
GOLDTOOTH: A lot of our elderly are still farming, but our middle-aged people and our younger people are not. And so it is our hope by coming back to this space that we're able to help revitalize, but also help demonstrate that the Diné way of life and the way that we have had our communities put together with the basis of agriculture is a way that we can continue to move forward in this newer world, using technologies that are going to be helpful, not just for ourselves, but for the Earth.
- So that's kind of, in essence, our mission. Alan and I have our own food company called DiilNA Food Start to Finish.
- HOST 2:** Their business produces traditional Navajo food, starting at their own farm and finishing at the table. They hosted us for lunch near where their farm is located. And we arrived just in time to watch the final preparations for the food.
- Racks of mutton hissed and spat on a grill over a fire, outsides charring to form a dark brown-black crust. Bags of vegetables tumbled into woks, sizzling on contact with the hot metal. Ears of corn and foil-wrapped potatoes were buried all around smoldering embers dusted with ashes.
- Interestingly, all this cooking was executed on the ground. Pits had been dug out and structured into a cooking area using stone blocks, which pots, pans, and metal grill grates were set over. And as we waited, we learned that these particular stones actually held special value for Danielle and her family.
- DANIELLE**
GOLDTOOTH: What we were doing this week in preparation for you all to be here, the first thing that we actually did was we took down an old little oven, a little oven, and all of these little rocks that are here, or the big rocks that were here, were actually quarried by our forefathers.

This specific one was probably from our great, great, great, great grandfathers' Hogan. And they hand quarried these stones themselves. And this used to be a part of a Hogan, a traditional Navajo home, out near the Shiprock rock area. As the years have gone by, we've reused these stones over and over for fire pits or for our cooking adobes and such.

HOST 2: As the intense winds blew wood smoke and the mouthwatering aromas of grilling meat, stir-fried vegetables, and roasted corn toward us, Danielle introduced the menu for the day, consisting of traditional Navajo recipes made using farm-fresh ingredients.

DANIELLE This is what we would love to offer you. We have a three sisters soup for our vegetarian folks. We have a-- I
GOLDTOOTH: believe it's going to be anasazi beans with split pea, yellow pea, pinto beans, and a few other beans that you would have found in this area that were traditionally brought here by and cultivated by the Anasazi themselves.

For those of you who are meat eaters, the other thing that's special about these ribs is my grandmother went, and she picked out [NAVAJO], which is a redberry, sumac.

HOST 2: And the food was delicious. Before we left, we asked Danielle about the significance of her work.

DANIELLE I imagine that our impact is going to be very small, but that's OK. As long as we're doing this for our community
GOLDTOOTH: and we have our hearts in it, that's what matters to us.

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HOST 1: It seems that it's not just the surrounding land that is sacred for the Diné people we met. They also place purpose in their actions and how they pursue their goals. So what seems immediately ordinary and everyday, such as farming, could hold deeper and richer meanings.

Reflecting back on the trip, this idea was definitely something that resonated with each of us. We couldn't help thinking about our own lives. Why do we do the things that we do? And what, if any, is the greater meaning in our everyday actions?

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This show was produced by the spring 2023 MIT Terrascope Radio class, Xiner Luo, Jacqueline Prawira, Nevena Stojkovic, and Elisa Xia.

The Terrascope Radio class is a part of MIT Terrascope, a learning community for first-year undergraduate students focused on solving complex environmental problems. The class was developed in collaboration with MIT's Comparative Media Studies program.

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Without these amazing and wonderful people, this program would have truly been impossible.

Music from Blue Dot Sessions. Thank you for listening.

SARAH

HANSEN:

You can find this episode and all the other Terrascope Radio episodes on the Terrascope website, which we'll share in the show notes. Signing off from Cambridge, Massachusetts, I'm Sarah Hansen from MIT OpenCourseWare.