

Ecological Justice: A Navajo Indigenous Perspective on Our Interconnections

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I want to extend my gratitude to the Baker Institute for inviting me this evening. I want to greet all of you with my traditional word, *Yá'át'ééh*. Back home, we say *Yá'át'ééh* which serves as a greeting. Other people might say something like, "Good evening," which seems to emphasize the evening. Our greeting is a little different. *Yá'át'ééh* refers to the universe, and the Earth is part of this much bigger universe, an integral part of a much bigger universal order. Humans are mere participants, existing as part of this universal order—not above or at the center of it. Our greeting is an acknowledgment of that existence; it involves recognizing and showing respect to where we are and our relationship to a holistic universe. Use of this greeting also acknowledges a primordial doctrine, *K'e*, which loosely translates to peacefulness, respect, and love. Practicing *K'e* through the greeting maintains community and kin relationships ensuring solidarity. In essence, justice or solidarity is achieved through the mere act of exercising the Navajo greeting.

I was asked to provide an Indigenous perspective on environmental justice and the issues being discussed today. What do Navajo elders and traditional people think when it comes to social and environmental justice? What goes through their minds? Thinking about policy issues and environmental justice from an Indigenous perspective versus a Euro-American perspective is like comparing apples to oranges (Figure 1). Generally speaking, Figure 1 depicts how Euro-Americans and Indigenous peoples view nature, thinking, and research. For example, it's different because the lens through which Indigenous peoples look at things is through interrelationships of all things, similar to systems thinking. The world works as a system; all parts unfold together within one big system, and every aspect of the world is interrelated. This is the way of many Indigenous peoples around the world.

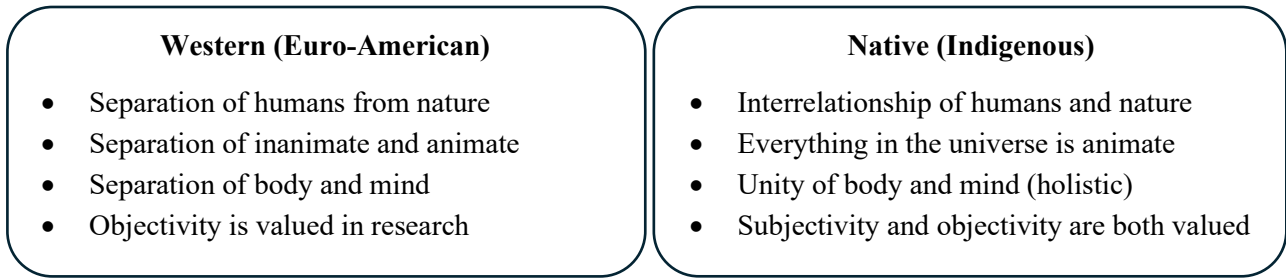


Figure 1. *Challenges of Cross-Cultural Understanding: Juxtaposition of Differences, Creating Awareness.*
Image credit: David H. Begay, 2018.

At this symposium, Saleem Ali mentioned we live in a world of chaos. Navajo people also say something similar. When we talk about ecology and how things are out of balance, we think about an imbalance in this universal order. What happens here is determined by things out there. That’s what our people say. For example, when Hurricane Helene came to the United States and another hurricane was on its way, our people said hurricanes are created by the sun. Heat goes into the water and creates a cyclonic action. Many things come from the sun. It’s a holistic way of looking at how things form.

I’m a Native American from the American Southwest. I’m Diné registered with the Navajo Nation. Navajos traditionally refer to themselves as the Diné people, and these words have been used interchangeably. I’m a fluent Navajo speaker, my tribe’s language. English is my second language. I was raised by my uncles, who were philosophers and spiritual healers. I still do some of the things they taught me. The teachings of my mentors reveal that traditional Navajo perspectives of the world show the interconnectedness of all things in the universe.

There is a way our people view the world. Figures 2 and 3 are worldviews and they illustrate how things interact. Figure 2 on the left shows the Navajo worldview and Figure 3 on the right is the Mayan worldview. There are other worldviews, but I couldn’t fit them all here, so I just picked these two.

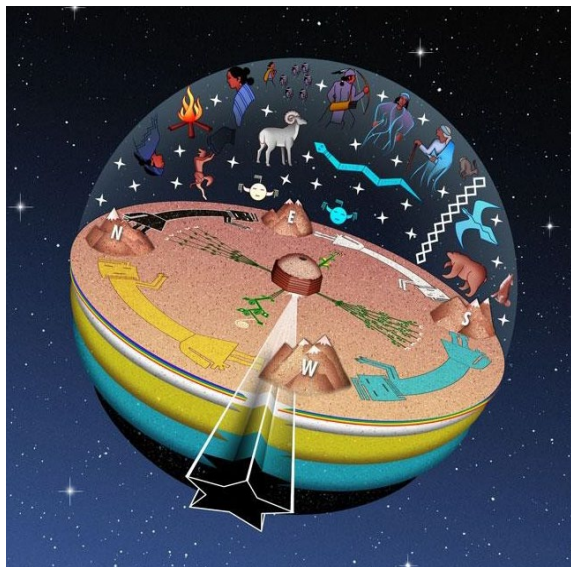


Figure 2. *Navajo Worldview*. Photo credit: Melvin Bainbridge (Diné), digital print, 2019. Image courtesy of David H. Begay (Diné) and Dr. Nancy C. Maryboy (Navajo/Cherokee).

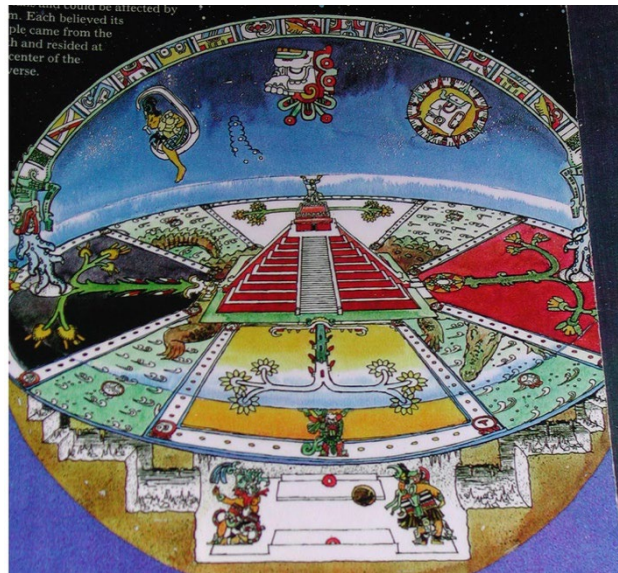


Figure 3. *Mayan Worldview*. Photo credit: National Geographic, May 1990, pg. 81.

The Navajo worldview shows a quadripartite, four-directional alignment, and the evolution of where we came from. There are twelve main constellations and a dark star, like a backbone, plus a secondary set of constellations. We have a solar calendar, a lunar calendar, and other calendars based on plants and other growth. The sun, the moon, the earth, and everything are all holistically interconnected. This shows how we are a part of a much bigger system, and there is no separation between land, humans, plants, stars, and the universe; only the words we use and how we think separate them.

Diné people talk about our ancient cosmic relationship. Our ancestors believed that we originated from ancient starlight that preceded all life and enabled all life to emerge, including humans. Juxtaposing Diné worldview with Euro-American science and astrophysics, astrophysicists explain the origin of life through the Big Bang theory and say we come from the stars. We're stardust; we're made from the same material as the stars. This is the ancient Navajo perspective of our interrelationship with the universe.

We see some commonalities among tribes and other Indigenous peoples of the world. I've worked with Aboriginal Australians, Māori from Aotearoa/New Zealand, People from the Pacific Islands, Native Hawaiians, and they all say similar things. Indigenous peoples in Central and South America and in Canada also share similar views. We all say that we come from cosmic light, though there are also differences in how we talk about the world.



Figure 4. *Mother Earth and Father Sky*. Photo credit: Unknown artist, no date, sand painting, sand pigments. Image courtesy of David H. Begay (Diné)

Figure 4 is an ancient sand painting, which shows the cosmic balance between Mother Earth and Father Sky. Diné elders understand balance as the restoration of nature's order and the maintenance of a state of balance, harmony, health, and equilibrium, often referred to as *Hóhzo'*. This concept of balance can be broad or all-encompassing and can be used as an umbrella term to discuss discrete multiple subjects related to balance. This is not unique to the Diné people; it goes back eons with many diverse Indigenous civilizations and cultures around the world. Imbalances to the greater natural order are usually the result of wildfires, floods, overgrazing, and other natural disruptions. These imbalances can be a result of human misbehavior by abuse of the four elements of life: air, fire, water, and land.

Diné people have environmental justice concerns, too. We have the uranium mining legacy. This story goes back to when the uranium industry first came to the Navajo reservation. One of my cousins, who was an elderly man and has since passed away from old age, told me, "When they first came around, this corporation told us, 'You Indians don't know how to develop your resources. We can develop it for you. It's going to bring billions of dollars, jobs, and lots of money for the tribal treasury. There are going to be plenty of resources to share.'" That's how the mining industry came in. They didn't talk about the health effects, and altogether over 500 uranium mines were approved. For a while, people mined all these sites. The uranium ore extracted near Monument Valley was used for atomic bombs during World War II.

They took it out of the ground there and processed it through a mill in southern Utah, then in Durango, Colorado. Then, it was developed further at Los Alamos Scientific Laboratory and taken to Trinity, New Mexico for testing. From there, the bombs were sent to Japan and dropped. That uranium came out of our land; that's what I was told.

Not too long after the mining approval process, all those miners died. Every one of them. People found out that mining uranium is extremely dangerous. Most of the miners died from lung cancer and kidney cancer. They didn't know about and weren't warned about the dangers of radiation. The wives and family members who interacted with the miners—washing clothes with uranium dust still on them—were exposed secondarily. The effects show up in the blood of these people's children. We know that uranium exposure and exposure to multiple metals are connected to negative birth outcomes.¹ Newborns are born with uranium in their blood, and the levels of uranium increase in the first few years of their development. Nobody knows how far it goes; the research is still ongoing. We're still learning about the long-term, generational effects on child development.² That's the uranium story; it's a story of injustice that has had long-term dire health consequences to the Navajo people and environmental consequences to the land and water.

Like many places, we have issues with drilling. Many of these drilling activities are happening near or on the Navajo reservation and it's a controversial issue. A lot of the reservation sites where people live form a jurisdictional checkerboard. Some land is privately owned, some is owned by the Bureau of Land Management (BLM), and some is owned by others. For example, the owners next door might authorize drilling, and the neighbors complain because it's ruining the land. There's a lot of conflict going on all the time. Right now, there's talk about hydrogen and uranium development on the Navajo reservation in Arizona and fracking in New Mexico. For other tribes in Arizona, there's the Oak Flat controversy. The San Carlos Apache people are dealing with copper mines being developed on their reservation. They are fighting against these corporations, and there is a lot of political pressure to mine copper in their area. The San Carlos case is currently before the Supreme Court. In a different situation, there's controversy over building big astronomy observatories on top of Mauna Kea, the Hawaiian sacred mountain. Many Native Hawaiians are saying, "Don't develop anymore there. That's where we go to pray. Those are our sacred sites." There are many more examples of environmental justice conflicts for Indigenous peoples. Environmental injustice concerns are constantly occurring and will increase as Indigenous peoples' lands—often the last vestiges of untouched and unspoiled territories—are scoped out by corporations for possible development.

The words *Hóhzó* and *Hóchxó* in the Navajo language talk about the dynamic balance inherent in nature. Diné elders say that this tremendous order or equilibrium in nature is perfectly harmonic and

manifests in many ways; it's one of the gifts of the world. If this dynamic balance collapses, everything collapses because it's based on a perpetual bond between *Hóhzó* and *Hóchxó*. For example, the calm eye of a hurricane is a dynamic balance to the constant cyclonic movement. In human biology, blood pressure needs to remain in balance; if it gets too low or too high it needs to be brought back to a normal pressure for homeostasis. There are many examples of this in nature. This dynamic balance is what makes the world move forward. We are faced with serious tipping points to this balance because of human-caused climate change, such as the reduction of ice sheets and the bleaching of the earth's fragile coral reefs.³ When we reach these catastrophic tipping points, the entire global ecosystem is impacted in ways that can be nearly impossible to reverse. How can we restore the balance?

Diné elders say that when we try to talk about these things in English, the language tends to separate everything. For example, when English-speakers talk about water, they talk about “water over here, water over there.” It's not connected and thought as part of the whole but objectified and categorized. That's how the English language is. But in Indigenous languages, people and water are one and the same. We are water and water is us. Einstein said something similar. He said that sunlight—energy—makes matter. It makes flowers, it makes humans. Energy, sunlight, and matter are interconnected and interchangeable (mass-energy equivalence).⁴ If Einstein says it, it's considered profound. But if an Indigenous person says it, it's disregarded as an Indigenous thing, dismissed as mysterious or magical, and it doesn't get the same credence. But we've been saying these things for years. The Navajo language speaks the language of relationship in a way that Euro-American languages don't. When I've talked to quantum mechanics and quantum physicist colleagues, they've said, “Oh, we have a word for that, it's called “holomovement.” Not many people use the language of quantum science. So Diné people have that in common with quantum physicists – the use of language that explains the dynamics of the universe.

Diné people talk about the whole universal movement; it's in our language. Everything is interconnected and undivided, and the natural order is ongoing. All things are happening at once; there is an interrelationship and interaction of all things. In Western environmental science we talk about individual pieces, about how “parts” of nature “work” but we're just taking part and parcel out of reality to discuss, not the whole. English dictionary definitions of words like “environmental justice” and “ecology” reference the relationship between living things and the environment. Ecology, as defined by Merriam-Webster, is “a branch of science concerned with the interrelationship of organisms and their environments.”⁵ This describes the biology of an area, including living organisms like humans and non-living components, creating a distinction between biotic (living) and abiotic (nonliving) elements.

Diné elders find this very hard to process. Water, air, sunlight, soil, and minerals are considered abiotic in Western science; they are not living. When I talk to elders about this, they can't process the concept because they believe we're all related, and everything is interconnected. The elders asked me, "If you take away the water, how long are you going to last? If you take away air, how long are you going to last?" Soon, you won't be living. It's all connected; we're not separate from the universe. How we live together is not separate from the air, sunlight, water, and soil. In Euro-American languages they tend to separate things, but that's not the reality in nature. We are nature and nature is us. If we're going to change anything in environmental justice, we must change the language we use. We must change the definitions of these words to change human understanding, behavior, and action. We must change the way we think about the universe.

The present way we are addressing environmental justice doesn't seem to be working for us. We have conferences and international meetings year after year and yet we still have all these problems today. We are all on this planet together. Most people would agree that the water is very contaminated; it is saturated with chemicals and many other things. The water is sick. If your water is sick, you are going to be sick. If your air is sick, you are going to be sick. If your Earth is sick, you are going to be sick. And if the sunlight gets affected, you are going to be sick. You are not separate from it; what you do is important and we are all connected.

We have a lot of cross-cultural differences, such as thinking that there is separation of humans and nature, the separation of body and mind, and the separation of humans and spirit. I've talked to quantum physicists, like David Bohm, and read books they recommended. Bohm talks about the implicate order and explicate order.⁶ Explicate order is sensory perception or what is perceptible to humans in three-dimensional space and linear time. We see, smell, touch a living plant and watch it grow, and this is how we know it is living. Implicate order is multidimensional and timeless; it includes living and non-living matter as well as consciousness (feelings, thoughts, etc.) and that which is imperceptible. A plant starts from a seed, but energy from soil, water, sunlight is how it grows, so we can't determine where the energy ends, and where the plant begins; they are interconnected in holistic existence. Much in the same way that humans are interconnected with air, water, sunlight. The animate, living things we observe, and the inanimate, non-living things beyond what we can observe make up an "undivided wholeness;" we are one.

For example, if a Diné person says, "I am going to *Tsoodzil* (Mt. Taylor, one of the sacred mountains of the Navajo) to make a prayer offering," it can be understood both in terms of explicate and implicate order. In explicate order, it is understood that the person is geographically away from *Tsoodzil* and will be traveling there to make a prayer offering. Space and distance are involved. In implicate order,

the Diné person knows that they are intrinsically, naturally related and undivided from *Tsoodzil*. These two ways of thinking happen simultaneously, and the information is mentally processed for understanding both realities of existence of the world for the Diné person. Everything works together in the holistic mind. We are one.

Western science taught in universities is based on cause and effect. You use an equation and get an answer. But that breaks down when you start thinking holistically. In Navajo science, there's no real cause and effect because one little event affects everything. That's how nature really works. When applying this concept to environmental justice, we're looking at something big and there are changes happening everywhere. How do we talk about the ongoing environmental injustices? We haven't developed the language or the consciousness by which we can talk and think together about this because we're limited. As a first step, we must create a new world order by creating new language—a much more complex language that reflects our interconnectedness—that will bring true and meaningful environmental justice into reality and bring us back to balance and harmony. Are we up to the challenge? My hope and prayer are that we are up to the challenge.

NOTES

1. Joseph H. Hoover, Esther Erdei, David Begay, Melissa Gonzales, Jeffery M. Jarrett, Po-Yung Cheng, and Johnnye Lewis, (2020). "Exposure to Uranium and Co-Occurring Metals Among Pregnant Navajo Women," *Environmental Research*, 190 (2020). <https://doi.org/10.1016/j.envres.2020.109943>
2. Navajo Birth Cohort Study (NBCS)/Environmental Influences on Child Health Outcomes (ECHO) (n.d.) <https://hsc.unm.edu/pharmacy/research/areas/nbcs-echo/>
3. Timothy M. Lenton, Laurie Laybourn, David I. Armstrong McKay, Sina Loriani, Jesse F. Abrams, Steven J. Lade, Jonathan F. Donges, et al., "Global Tipping Points: Report 2023," *Global Systems Institute*, University of Exeter, Exeter, UK. <https://report-2023.global-tipping-points.org>
4. H.A. Lorentz, A. Einstein, H. Minkowski, and H. Weyl, *The Principle of Relativity: A Collection of Original Memoirs on the Special and General Theory of Relativity* (Methuen and Company, 1923).
5. Merriam-Webster, "Ecology," *Merriam-Webster.com dictionary*. <https://www.merriam-webster.com/dictionary/ecology>.
6. David Bohm, *Wholeness and the Implicate Order* (London: Routledge, 2002).