



With Feet on Common Ground: Folklore, Science, and Education

by Tim Frandy, Guest Editor (Western Kentucky University)

It's a chilly, damp August morning in northern Wisconsin as I sit to write this introduction to a special issue of *The Journal of Folklore and Education* called Common Ground: People and Our Places, a wonderfully diverse issue that brings together themes of space and place, cultural environments, pedagogical practices, and folklore and science. I've long believed that environments, sciences, and learning are situated within cultural frameworks. For that reason, I'd like to situate this introduction within my own.

It's common in my family—a mix of American-born Finns, Swedes, and Sámi who grew up harvesting wild foods as a way of life on the south shores of Lake Superior—to begin our conversations with talk about the seasons and the weather. We acknowledge August's distinct weather—often humid and fluctuating between cold and hot—that marks its separation from high summer and from the summery weather found short distances to the south. We recognize the signs of summer-autumn (in Finnish and Sámi, eight seasons are recognized rather than four), and we take note of the things we have seen outdoors. The mosquitoes have quieted from intolerable to mere annoyances. The first colors of autumn, yellows and reds, are finding their way into the leaves of trees stressed from disease, insects, or difficult weather. The rivers are low, as is common this time of year, but soon they will be susceptible to autumn floods. We discuss fish, deer, birds, trees, and plants. We do all this before we might think to ask about each other's welfare, family,

About the photo: Picking blueberries and huckleberries in a pine barrens, July 2014. Photo by Tim Frandy.

or work. Our own well-being is intertwined with webs of relations beyond the human community. Talking about the weather is the same thing as talking about ourselves.

Above all, this time of year, we talk about berries. The latter half of our summer involves rotating through regional berry patches, hidden in the deep forests of northern Wisconsin and Michigan, down logging roads, sometimes many miles away from the nearest house or paved road. Blueberries, huckleberries, raspberries, blackcaps, thimbleberries, blackberries. Sometimes juneberries, mulberries, pin cherries, chokecherries, cranberries, wild grapes and plums. Growing up, my family would spend several weeks in these berry patches, among mosquitoes, black flies, eagles, and bear, filling half a chest freezer with the fruits of our labors, which we squirreled away in old ice cream buckets. Our late summers are still filled with the scents of sweet fern and stink bug, the stain on the fingers, the phantom tickle of the ticks under the clothing, and the real itches of the bites that endure for weeks. We crouch for hours in remote pine barrens to pick low-growing blueberries until our legs ache, and we wear heavy wools on hot days in thorny blackberry brambles until we are drenched with sweat.

Picking berries shapes who we are, and how we interact with our place. We keep our eyes on the weather all summer long. Will there be a June frost that nips the blossoms—and destroys nearly all the blueberries for the year? Where will the berries produce best, given the rainfall this year? We observe the maturation of other plants, comparing them with our memories of previous years, to estimate when berries will ripen. We listen to the woods, the waters, and the weather, and we continue to learn from them every year. Berries are how we think, and how we understand—at least within this season.



A historically productive blueberry year in 2014 left wild berries looking like grapes on a vine.
Photo by Tim Frandy.

Berries affect how we want and expect land to be managed. Berries reflect and shape who we regard as family (you don't share good patches with just anyone), and a set of old customs dictates the etiquette and norms of appropriate and inappropriate berry picking behaviors, which often supersede actual written law. We remember through berries as well. We celebrate my late ambidextrous grandmother, who could out-pick anyone in the berry patch until she was 80 years old. And my great-grandmother, who would set up camp in a berry patch for weeks, picking all day and canning all night over an open fire. Or even the 80-some year old stranger my father once encountered in the blueberry patch, who clung to a walker with one hand and bent to pick berries at ground level with the other. She picked with a methodical and loving slowness, one berry

at a time, placing each individual berry carefully in a pail balanced on her walker's seat. My father called her his hero. We understood why.

But what I'm trying to get at is not simply about berries. As the seasons change, we fish, hunt, garden, gather, knock rice, tap trees, cut firewood, re-use and re-purpose the things around us in a variety of creative ways. Together, these customary practices shape our sense of time, our sense of place, and our sense of self. We belong to the place—it does not belong to us—to this bigger web of relations in which we have what many Indigenous scholars refer to as “relational accountability” (Wilson 2008, 99). We take what it gives us of its own accord, and we give back what we can to our non-human kin. These beliefs of reciprocal relations with non-human persons are ancient and well documented among Finno-Ugric peoples, and within our everyday practices they endure today, often in new, innovative ways. In the words of one of Finnish-American folklorist Marsha Penti's collaborators, “It's in us, this berry picking” (1991, 35).

In formal education, however, local knowledge and local culture tend to be undervalued, whether in the English, history, or science classroom. Although individual motivated teachers still can fight to find ways to engage the local, the last 15 years of educational policy have driven us in the opposite direction, toward the nationwide standardization of curricula and high-stakes testing. Curriculum design requires hard, political choices that privilege certain types of knowledge over others, that advance certain social agendas over others. This phenomena of politicization through standardization occurs as much in the sciences as in the humanities.

We have many classrooms where children learn to parrot that mitochondria are the powerhouses of the cell (information I perhaps have not used since high school), but we have been producing grown adults who are unable to recognize the kinds of trees in the forest, which plants around them are edible or medicinal, or how to read the clouds to predict the weather. How do we expect to protect biologically diverse critical habitats if our general population can only distinguish between evergreen and deciduous trees?

In classrooms, students participate not simply in science, but rather in science traditions that have taken shape over centuries. These traditions enculture: They privilege and marginalize certain subfields; they promote certain cultural assumptions that underlie a discipline; they cultivate specific kinds of relationships between scientists and the objects of their studies; and they create systems of hierarchy, value, and authority through scientific practice. These science traditions are deeply enmeshed with other systems of hierarchy and authority in our world, and the emergent fields of feminist science studies and postcolonial science studies have explored and critiqued how sciences operate to advance colonial and patriarchal agendas (Harding 1992; Crasnow, Wylie, Bauchspies, and Potter 2018).

We see these cultural phenomena play out in our everyday lives, in countless ways. Students are, for example, perhaps more likely to dissect frogs than learn about the threats to their habitat. The cultural dynamics of this curious rite of passage in biology classrooms likely teach us more about how humans should relate to animals than about the frog itself. Students are encouraged to perform their identity as emerging scientists publicly through either the killing of an animal in the name of science education, or the use of an animal specifically killed for the purpose of education. The ethical justification of killing for human learning is determined by a greater community of

scientists, as are the arbitrary lines surrounding a “humane” death. The formal methods of dissection (even the use of formal instead of colloquial names) set it apart from cruel acts of senseless mutilation. The frogs are not eaten, distinguishing our sciences from our dinner plate and our cultural life.

Students must negotiate these tensions and feelings of discomfort (perhaps inappropriately “playing” with a dissected animal to the amusement or disapproval of peers), choosing their own roles as individuals in relation to a broader and socially normalizing community. Some students—mostly young women, in my memory—in acts of protest refuse to participate in dissection. Only a few decades ago, many of these students risked failure of the lab assignment or even the course for their protests. Regardless of one’s stance on the importance of dissection exercises, it is clear that they enculture and engender young people into the shared ethics and values of a community of scientists—even amid threat of punishment for nonconformity. When we pretend that the sciences are somehow not political, somehow not cultural, we are complicit in perpetuating Western cultural hegemony and patriarchy through these disciplines.

Despite the challenges of standardization, many educators still creatively integrate the local into the classroom. One of my uncles is a retired high school biology teacher, and he would sometimes bring in a deer to butcher with his class, or perhaps some walleye to fillet or smelt to clean. In this informal but integrated curriculum, his students learned about animal anatomy and physiology, engaged in local cultural practices, and learned a practical application of food production. During deer hunting season—a major cultural event where I grew up—my uncle would talk about deer leading up to the hunt with his students. Where are the deer? What are they foraging on? Where are their bedding areas? How do cold rain, different kinds of snow, different strengths of wind affect their behavior? How does the end of the rut affect their behavior?

Many of these things I learned at home through dialogue and firsthand observation over the course of many decades. My brother and I learned to “read” the woods, to look for acorn beds, tender tree shoots, and other forage, along with trails, beds, rubs, scrapes, tracks, feces, and the like. We were taught if it was raining, deer would bed in balsam forests. If there is big snow, they bed down. Deer tend to move against the wind, unless the wind is too strong, in which case they don’t move at all...at least until they become hungry. Of course, their movement is further complicated by the nature of the forest, preexisting trail networks, swamps, clearings, and the like. These relatively simple tidbits of traditional knowledge are not static, but rather interpretive, generative, dynamic, creative, and participatory. Understanding those principles allows us to understand what a deer wants to be doing, what it is doing, and what it will likely do next. Having this knowledge puts me in relationship with the deer, and their networks of relations in the forest: their food sources, their bedding grounds, their trail networks. Why cut a healthy oak for firewood, if it’s providing nutritional acorns to a deer? With that oak needing 50 years to mature enough even to produce acorns, perhaps there is better option to heat my home. We work to take care of the deer, and they take care of us. To borrow the words of Ahousaht fisherman Robert Foley, “It’s trying to manage ourselves within the resource instead of trying to manage the resource” (Schreiber 2002, 372).

Our sciences say a great deal about our values as people and how we relate to our place in the world. What social and cultural agendas do they promote? What kinds of power do they perpetuate and contest? How do they marginalize and exclude? How might science classrooms be used to

support and sustain local cultures—the fiber artist, the woodworker, the herbalist? What impacts does standardization of science curricula have on local cultures, local knowledges, and a multicultural world? And how can we work as folklorists and educators to cultivate multicultural sciences in schools, as we have done in other disciplines?

Although science is often masked in a mythos of objective knowledge production, science traditions are largely cultural practices, and they depend on cultural frameworks in process, interpretation, and ethics. Even the “hard” sciences are reliant upon culturally constructed metaphor (to understand quantum mechanics or the 10 to 26 dimensions of string theory), simplified abstractions (Bohr model of the atom; vacuum-based classical mechanics), and meaning making (the philosophy of physics; centuries of speculation over the meanings of Euler’s Identity). In her classic work *Decolonizing Methodologies*, Maori scholar Linda Tuhiwai Smith critiques ethnocentrism in conventional Western research, asking: “Whose research is it? Who owns it? Whose interests does it serve? Who will benefit from it? Who has designed its questions and framed its scope? Who will carry it out? Who will write it up? How will its results be disseminated?” (2012, 10). Designing research questions, crafting methods to test hypotheses, and interpreting data occur within cultural frameworks. In the complex and dynamic real-world systems of the life sciences—in ecology, medicine, or public health—science is particularly dependent on these human factors.

Turning science into policy is also a cultural process. In the work of Erika Brady (1994) or Sandy Rikoon and Robin Albee in the Ozarks (1998), Dale Rosengarten (1994) in African American communities, Stuart Marks (1994) among traditional hunters in Zambia, or in my own work on Indigenous sustainabilities (Frandy and Cederström 2017; Cederström, Frandy, and Connors 2018; Frandy 2018), we can see how “conservation” and “sustainability” are often weaponized in ways that advance the conservation of one culture’s lifeways at the expense of another. In the Upper Midwest, non-Native people manage forests for sustainable timber, hunting, and tourism, and not for medicines, birch bark, and berries. In former times, blueberry-producing areas were regularly burned to increase their yield, until settlers who saw fire as destructive began implementing policies of fire suppression (Anderton 1999). Shared social and cultural values shape where scientists invest their energies and how science is applied and translated into policy and practice.

In recent decades, Indigenous (and allied) scholars have challenged the universality and exclusivity of Western science, looking at a wide variety of phenomena like traditional ecological knowledge (TEK) (Jacob 2013, Nadasdy 2007), Indigenous science (Kawagley 2006), Indigenous health care (Walters and Simoni 2002; Walters, et al. 2011), and ethnomathematics (Iseke-Barnes 2000). These Indigenous STEM fields were and continue to be sophisticated, dynamic, and resilient, despite centuries of stigmatization. Today, study after study shows Indigenous-managed lands often have cleaner water and greater biodiversity than adjacent federally run lands (Waller and Reo 2018, Reo and Karl 2010), or that once-stigmatized Indigenous medicines are highly effective (DuBois and Lang 2013). Clinics in Alaska and New Mexico claim great successes through the integration of traditional healers into their patient care, and Native communities have turned to traditional healing to assist with mental health, substance abuse, and a variety of public health challenges.

All science is ethno-science, and we would be remiss to ignore the problematic legacy of the Enlightenment in Western sciences that endures today. These Enlightenment-based logics not only advanced science, but also helped propagate global colonization and modern capitalism. Elizabeth DeLoughrey and George B. Handley explain, “In sum, European Enlightenment knowledge, natural history, conservation policy, and the language of nature—the very systems of logic that we draw from today to speak of conservation and sustainability—are derived from a long history of the colonial exploitation of nature, as well as the assimilation of natural epistemologies from all over the globe” (2011, 12). It is no coincidence that the celebrated scientist and philosopher Francis Bacon was equally praised for his contributions to the development of the scientific method and his instrumental role in the founding of British colonies in North America. He was even commemorated on a 1910 stamp from Newfoundland, with the moniker “the guiding spirit in Colonization Scheme [sic].”

This legacy endures today in paternalistic attitudes toward Indigenous environmental management, in the dismissal of the efficacy of Native medicines, and in the deep racism in Western archetypes of “primitive” peoples and their cultural logics. According to Bonnie O’Connor and David Hufford, these logics bear connections to the 19th-century theory of cultural evolution:

[M]edicine, like the rest of culture, was presumed to have developed “upward” in a largely linear and unidirectional progression from its crudest, most primitive form into its modern, Western, highly sophisticated state.... This model remains very influential in current popular and professional thought, despite the fact that the evolutionary view on culture on which it was based has been largely dismissed by most modern scholars of culture (2001, 13),

As folklorists, we ought to be able to understand how science traditions shape how science presents itself today, and how racist and sexist structures perpetuate themselves through the production and reproduction of scientific knowledge. As folklorists, we ought to play a role in elevating vernacular approaches to a field whose methods are often dismissive of or even hostile to vernacular interpretations and authorities. As folklorists, we ought to find ways that science education can help strengthen local cultures, elevate subaltern voices, and promote alternative agendas, discourses, and methodologies within the STEM fields. As folklorists, we ought to recognize the creative brilliance of all the vernacular sciences in the world, while being able to distinguish them from the problematic positions of climate change deniers, chemtrail conspiracy theorists, and anti-vaxxers. As folklorists, we ought not be cast as science-deniers because of our valid questions and critiques that ultimately make science work better in a multicultural world. There is common ground to be found between our disciplines, and it is breathtaking.

This two-part special issue, *Common Ground: People and Our Places*, is centered around the diverse ways that people relate to our place in an environment, in the human world, in the cosmos, through both the vernacular and institutional sciences. Because of the large number of contributions to the issue, it has been broken into two parts—a first for JFE. The two issues are designed to mirror each other, bringing into dialogue educators, academics, and public humanists across several different disciplines, while spanning topics like Indigenous traditional ecological

knowledge, foodways, place making, disaster, language, public folklore, educational technologies, and innovative pedagogies and curricula on the ground.

At least for me, on the ground is where I belong, as both a person and a folklorist, feeling the earth underneath my bare feet. There's a patch of blackberries not far from here that I've been wanting to look at. They should be just about ready, unless someone's found them first. Or should I drive north to pick more blueberries, where they mature later in the summer? If nothing else, wild rice is coming soon. And cranberries. And muskie. And deer. The afternoon sun has made the day warm and muggy. Which way is the wind blowing now?

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Works Cited

- Anderton, John B. 1999. Native American, Fire-Maintained Blueberry Patches in the Coastal Pine Forests of the Northern Great Lakes. *The Great Lakes Geographer*. 6.1-2: 29-39.
- Battiste, Marie. 2013. *Decolonizing Education: Nourishing the Learning Spirit*. Saskatoon: Purich.
- Brady, Erika. 1994. "The River's Like Our Back Yard": Tourism and Cultural Identities in the Ozark National Scenic Riverways. In *Conserving Culture: A New Discourse on Heritage*, ed. Mary Hufford. Urbana: University of Illinois Press, 138-51.
- Cederström, B. Marcus, Tim Frandy, and Colin Gioia Connors. 2018. Indigenous Sustainabilities: Decolonization, Education, and Collaboration at the Ojibwe Winter Games. *Journal of Sustainability Education*. 18. http://www.susted.com/wordpress/content/indigenous-sustainabilities-decolonization-education-and-collaboration-at-the-ojibwe-winter-games_2018_08/.
- Crasnow, Sharon, Alison Wylie, Wenda K. Bauchspies, and Elizabeth Potter. 2018. Feminist Perspectives on Science. *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta. Spring Edition, <https://plato.stanford.edu/archives/spr2018/entries/feminist-science>.
- DeLoughrey, Elizabeth M. and George B. Handley. 2011. *Postcolonial Ecologies: Literatures of the Environment*. Oxford: Oxford University Press.
- DuBois, Thomas A., and Jonathan F. Lang. 2013. Johan Turi's Animal, Mineral, Vegetable Cures and Healing Practices: An In-Depth Analysis of Sami (Saami) Folk Healing One Hundred Years Ago. *Journal of Ethnobiology and Ethnomedicine*. 9:57. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3751750>.
- Frandy, Tim. Indigenous Sustainabilities, Sustaining Indigeneities: Decolonization, Sustainability, and Education. *Journal of Sustainability Education*. 18. <http://www.susted.com/wordpress/wp-content/uploads/2018/06/Frandy-JSE-Introduction-Decolonization-Issue-PDF.pdf>.
- Frandy, Tim and B. Marcus Cederström. 2017. Sustainable Power: Decolonizing Sustainability through Anishinaabe Birchbark Canoe Building. In *Going Beyond: Perceptions of Sustainability in Heritage Studies No. 2*, ed. Marie-Theres Albert. Berlin: De Gruyter, 217-30.
- Harding, Sandra. 1992. After Eurocentrism: Challenges for the Philosophy of Science. *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association*, 311-19.
- Iseke-Barnes, Judy M. 2000. Ethnomathematics and Language in Decolonizing Mathematics. *Race, Gender and Class*. 7.3: 133-49.
- Jacob, Michelle M. 2013. Think of the Seven Generations: Xwayamami Ishich. In *Yakama Rising: Indigenous Cultural Revitalization, Activism, and Healing*. Tucson: University of Arizona Press. 79-103.
- Kawagley, Angayuqaq Oscar. 2006. *A Yupiaq Worldview: A Pathway to Ecology and Spirit*. Long Grove, IL: Waveland.
- Marks, Stuart A. 1994. Managerial Ecology and Lineage Husbandry: Environmental Dilemmas in Zambia's Luangwa Valley. In *Conserving Culture: A New Discourse on Heritage*, ed. Mary Hufford. Urbana: University of Illinois Press, 111-21.
- Nadasdy, Paul. 2007. The Gift in the Animal: The Ontology of Hunting and Human-Animal Sociality. *American Ethnologist*. 34.1: 25-43.

- O'Connor, Bonnie B. and David J. Hufford. Understanding Folk Medicine. In *Healing Logics: Culture and Medicine in Modern Health Belief Systems*, ed. Erika Brady. Logan: Utah State University Press, 13-35.
- Penti, Marsha. 1991. "It's in Us, This Berry Picking": Upper Peninsula Foodways. *1991 Festival of Michigan Folklife*, eds. Ruth D. Fitzgerald and Yvonne R. Lockwood. East Lansing: Michigan State Univ. Museum, 35-8.
- Reo, Nicholas J. and Jason W. Karl. 2010. Tribal and State Ecosystem Management Regimes Influence Forest Regeneration. *Forest Ecology and Management* 260.5: 734-43.
- Rikoon, Sandy and Robin Albee. 1998. "Wild and Free, Leave 'Em Be": Wild Horses and the Struggle over Nature in the Missouri Ozarks. *Journal of Folklore Research*. 35.3: 203-22.
- Rosengarten, Dale. 1994. "Sweetgrass Is Gold": Natural Resources, Conservation Policy, and African-American Basketry. In *Conserving Culture: A New Discourse on Heritage*, ed. Mary Hufford. Urbana: University of Illinois Press, 152-63.
- Schreiber, Dorothee. 2002. Our Wealth Sits on the Table: Food, Resistance, and Salmon Farming in Two First Nations Communities. *American Indian Quarterly*. 26.3: 360-77.
- Tuhiwai Smith, Linda. 2012. *Decolonizing Methodologies: Research and Indigenous Peoples*. 2nd ed. London: Zed Books.
- Waller, Donald M. and Nicholas J. Reo. 2018. First Stewards: Ecological Outcomes of Forest and Wildlife Stewardship by Indigenous Peoples of Wisconsin, USA. *Ecology and Society*. 23.1: 45.
- Walters, Karina L. and Jame M. Simoni. 2002. Reconceptualizing Native Women's Health: An "Indigenist" Stress-Coping Model. *American Journal of Public Health*. 92.4: 520-24.
- Walters, Karina L., et al. 2011. Bodies Don't Just Tell Stories, They Tell Histories: Embodiment of Historical Trauma Among American Indians and Alaska Natives. *Du Bois Review*. 8: 179-89.
- Wilson, Shawn. 2008. *Research Is Ceremony: Indigenous Research Methods*. Halifax: Fernwood.