

# THE OTHER WAY OF KNOWING

by Lilian Na'ia Alessa

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"My grandmother spoke no English and went about her tasks singing. She sang to things I couldn't see, to stones and water. She spoke to the breezes that came off the sea. This was not odd to me. No question of sanity or need of counseling entered my mind. It was simply the mechanics of living, of praise to God, to the Creator."

-Lilian Na'ia Alessa



Western science and Indigenous worldviews are often seen as incompatible, with the Indigenous view usually being far less valued by society at large. But an inside look at Indigenous ways of knowing shows that they offer unique and dependable insights, in precisely the areas where Western science is often weakest.

I grew up in a family where Bible study was mandatory. Yet, despite the firm Christian branches that shaded my home, there were traditional roots that anchored daily life. My grandmother spoke no English and went about her tasks singing. She sang to things I couldn't see, to stones and water. She spoke to the breezes that came off the sea. This was not odd to me. No question of sanity or need of counseling entered my mind. It was simply the mechanics of living, of praise to God, to the Creator. She wove fibers into amazing patterns, placing them in water while singing. When she finished singing, the coarse strands would be soaked and pliable and she would sing again until the pattern was done. Her songs, I came to realize, were timers for different tasks. She had no watch, knew no math, indeed had been denied the opportunity to get the education that became the currency of the world in her adulthood and old age. Instead, she had acquired a sophisticated methodology to transform the resources that yielded to her hand, and her hand only. There were no power tools, no mechanical devices to ease her work. There was only an elegance of skill that no machine could replicate. As a child, she was magic to me, and at her deathbed the shock of her mortality severed my faith in these songs. I turned to the precision of Western learning, so that such a fate would never befall me. So I would know the world, and in that knowledge, somehow control it.

My desire to shun those things that had no firm margins grew as I came to learn the beauty and remarkable perfection of the universe through the eyes of those scholars who, like the elders of my youth, had discovered these things before. As I sat in uncomfortable chairs in lecture halls, a number in a sea of students, and despaired at the pain of examinations in those same chairs, a profound awe of the very molecules that composed my body and everything surrounding me settled. When I realized that the ability to pursue this learning fell squarely on my ability to navigate a system of hard edges, I panicked. I had been raised in a home swirling with soft fluidity of being.

And now, my learning rejected these things.

**But numbers sing, too.** Their words are clear and distinct, and their combinations were refrains of certainty. The slow draining of the deep convictions of my upbringing and generations of women who had sustained children with their hands became a steady flow. Here lay the solution: I could understand all things by measuring them, and in knowing those words I felt I could rewrite the song.

The profound awe I felt as a student failed me when I took a job as a faculty researcher at a university. I came to realize that Western science hummed the words much of the time. I could see it coming: there were too many failures, too many times when it was apparent that politics, egos, and cliques were the white noise that drowned out the song. Like the death of my grandmother, it was a sound blow.

Western science as a way of knowing has precision and discipline, and unlike most other ways of knowing, it can be faithfully replicated (most of the time) and understood by practitioners around the world, regardless of their language. But I was led to believe that it could explain more than it really could. Its limitations could be found not only in the over-simplification of the world but also in the murky stupidity of politics, greed, and hubris. And so, in my 30s, I found my faith in Western science fall away like a rock cast off a mountain for the second time in my life. In my rush to compose, rather than hear, the song, I was missing the synergy of the wisdoms of two worlds: one called “traditional” and the other called “Western.”

The phrases “traditional ecological knowledge,” “traditional local knowledge,” and “folk knowledge” are often associated with “fuzzy knowledge,” the kind that comes from funneling information through a human instrument, whereas “Western science” suggests an absolute objectivity, immune from human bias. In order to discern between the two, one must understand how different cultures, including the “knowledge seekers” of both, come to exist, survive, and thrive in their worlds. The bottom line is that both address knowing the world using different, yet ultimately similar, approaches. Western science excels at unraveling the unseen—our medical technology a testament to this precision—

while traditional knowledge reveals the dynamics of larger systems, particularly animals, plants, and habitats, and the wisdom of our place among them.

In general, Western science and traditional knowledge are usually perceived as two separate, distinct, and somewhat incompatible entities. Why is this? In part, it is simply stubbornness and fear on both sides. In practice they are very similar, and in results they are highly complementary, because one works well at small scales and the other at large scales. But in their origins they differ. Western science is relatively new and evolved from the philosophies of Aristotle and Bacon that sought to standardize information so that it could be used by groups of people who did not necessarily live in the same region. People who moved from one region to another relied on this information to aid the growth of their crops, the health of their livestock, and the survival of their young, not to mention the development of weaponry, defenses, and trade. Aristotle stated that humans were separate from the rest of the “natural” world (this including animals, plants, and the places they lived). This was a pivotal time in history: medicine was advancing and people were making connections between cleanliness and protecting food sources from competing interests, such as rats, which also spread disease.

Government and economic structures were providing security for more and more people, most of whom had descended from tribes that survived by hunting and gathering and competing for these resources with neighboring tribes through conflict and, less often, fragile treaties of cooperation. With this shift from conflict to more and more centralized organization came more time to observe the components of the world not directly related to survival. While not new speculations, a class of “observer” started documenting the way humans behaved with each other and other curious habits of the species. This class of observer was more often than not composed of members of religious sects, such as the clergy, and likely evolved from the strong shamanic heritage of their ancestral traditions. As these observations amassed and humans were ideologically “cleansed” of their socially offensive ties to the animal world, human nature sought to explain the observations. Tied into this desire was an increasing belief that the surrounding world was less and less a living, interacting system and more and more a source of resources, composed of “parts,” each of which could be isolated, understood, and manipulated, usually for the benefit of humans. At this point, any oral histories that linked societies to their environments were rapidly being relegated to the outlying villages and remnants of nomadic peoples. In other words, the “uneducated.” So the “observers” or “scholars” had isolated themselves from their environments and were increasingly reliant on a hierarchy of workers to support their existence and lifestyles, distancing them from the lands and waters that sustained them. Could this be the point where Western science and traditional knowledge diverged as two distinct socially constructed approaches to “knowing?” That remains to be studied, but perhaps one can link this early form of systematic observation and explanation to the relatively recent process called the “scientific method” which is often invoked to settle information-dependent conflicts.

It is my opinion that an important distinction must be made between scales of knowledge with respect to the scientific method and traditional knowledge. Technologies such as microscopes and antibodies have given us insights into the unseen worlds of micro-scale processes that we would otherwise never have acquired. As you increase the level of space (for example a cell in the body) and time, you increase the level of complexity, or how many things interact with each other at any given time. By the time you arrive at ecosystems, the interactions of organisms and their habits, you have accumulated an enormous amount of complexity. It becomes increasingly difficult to resolve what is causing which effect. As a consequence, the scientific method and the Western approach to “understanding” is more tenuous, and it is at this intersection of time and space that traditional knowledge is most apparent as another approach. By necessity, Western science must simplify things to develop testable hypotheses about how they work, which is both precise and useful at smaller scales. In the process, however, it eliminates details, many of which are considered “descriptive” and either not important to understanding or too confounding. A hallmark of traditional knowledge is that details are exquisitely noted and communicated in such a way that the user can detect small changes and respond accordingly.

This approach to traditional knowledge has existed as long as we have as a species. The act of residing, surviving, and thriving in a place means that the resident must “know” her environment in such a way as to repeatedly have a high likelihood of regularly acquiring necessary resources, whether they are physical or not, on a regular basis. The consequence of failure is not the ridicule of one’s peers or the failure to get a research grant; it is sickness, suffering, and death. One could say that the stakes in traditional knowledge are much higher, and hence so is the precision. Traditional knowledge requires something that, with few exceptions, Western science has failed to accomplish: long periods of observation in the same place and the transmission of these observations to others in that place so that they can use them practically and often, from a young age.

Some Western schools of thought romanticize traditional knowledge and perceive that somehow possessing it brings ultimate harmony of the user with his world. No mistakes will be made because there exists a magical link where all things are known. This is part of the devaluation of traditional knowledge because it fails to acknowledge that it, like the scientific method, is a process where information is accepted or rejected based on receiving knowledge continuously, both directly from the system and from one’s colleagues, friends, family, and mentors, usually to benefit the community and future generations.

It should not be surprising that somebody suggests that the approach of traditional knowledge is not limited to humans. We have only recently become aware that elephants have very calculated ways of using and moving through their environments. They will find their food, raise their young, interact, and bury their dead in ways that are distinct to their

clans, locations, and preferences and they will transmit this information from one generation to the next using a complex subsonic language. My grandmother told me similar stories about ravens, that we were really not that different, and that if we searched our memories really hard, we could actually see someone we knew in those brilliant, wise, winter eyes.

*Lilian “Na’ia” Alessa is of Salish ancestry. She received a doctorate in cell biology from the University of British Columbia and now works in the area of adaptive resource management in Alaska, using tools from both traditional and Western ways of knowing. This article is adapted from Alessa’s chapter, “What is Truth? Where Science and Traditional Knowledge Converge,” in The Alaska Native Reader, edited by Maria Sháa Tláa Williams and published in 2009 by Duke University Press. For more information, go to the Duke University Press website at [www.dukeupress.edu](http://www.dukeupress.edu) [1].*