



Native Wisdom in a Quantum World

GLENN APARICIO PARRY

SCIENCE IS NOT THE PROPERTY OF ANY ONE CULTURE OR LANGUAGE. Science is about the pursuit of knowledge and understanding the nature of reality. But there are different ways of seeing, different ways of knowing reality. It's time to recognize the blessing of having different sciences and to invite them together under one tent to dialogue.

The Institute of Noetic Sciences pluralizes science and uses an adjective before "sciences." These two simple acts are extraordinary because this isn't being done in the mainstream culture. In common usage, "science" requires no adjective because science means Western science. This attitude must change. Western science has aggressively colonized a worldview that science is a rigorous intellectual exercise producing a body of knowledge about an objective world that can be verified and replicated through the "scientific method." The tremendous successes of Western science have made it possible for this worldview to attain such largely unchallenged power.

Ironically, as Western science followed its own methodology to its extreme, dissecting the world into smaller and smaller particles, it eventually entered the mysteries of the subatomic quantum realm. This led quantum mechanics pioneer Werner Heisenberg to lament that we had reached the ends of our language in describing such a world and philosopher-physicist-mathematician Alfred Whitehead to say that the atom actually exists entirely in its radiations yet there is no "thing" there radiating. With quantum theory—which embraces noncontinuity, noncausality, and nonlocality—the rug finally came out from underneath the illusion that we could stop a moving world and measure discrete and separate parts. One might think that these insights would birth a whole new way of looking at the universe as an undivided whole, but this hasn't been the case. It is no accident that the Sanskrit word "*maya*" (the physical world as illusion) and the English word "measure" have the same root. Inside the quantum world, the hubris of utilitarian measurement became fully exposed. <



COMING BACK FULL CIRCLE

Every extreme position bears the seeds of its own destruction, and in taking the scientific method full course, Western science came full circle to a worldview that has been known for millennia in indigenous cultures. That worldview recognizes that everything exists in dynamic flux—everything vibrates—and everything is in relation to everything else. What I see happening now is the spirit of the land itself bringing back a resurgence of Native thought, bringing, in effect, a “Turtle Island Renaissance.” And as with the European Renaissance, it is necessary to look backward in order to go forward—to draw on the wisdom of true “(ab)original thought” that transcends time. So while Western science considers the notion of nonlocality to be an exciting frontier to investigate, this realm is a given in Native science. To Native people, thought, or spirit, is and always has been alive and moving.

Notice what we say when we have a flash of understanding or an insight: “Something came to me.” This is more literal than we realize. According to indigenous wisdom, that “something” comes out of a greater intelligence that is beyond personal consciousness. Similarly, knowledge is not something static that can be locked in a single individual’s brain, to be shared only through books or computer files. Knowledge, like thought and spirit, is alive. And it may be that knowledge originates in the land itself. Polly Walker, a Cherokee working with Australian aboriginals, says that “knowledge is seeking us”—seeking the right vehicle to carry its message. The correct vehicle is not always a human being. The animals or the plants are better suited for carrying certain knowledge. Native science recognizes a reciprocal relationship between knowledge, language, land, and consciousness. The first languages are sacred languages. Speaking in those languages evokes something real (not metaphorical) in the land. There is a direct energy transmission.

In fact, Native language emerges from the land and is inseparable from the land. The Terralingua organization has done some fascinating research on the reciprocal relationship between language and land. It turns out that where there is 85 percent of the linguistic diversity on

the planet, there is 85 percent of the biodiversity. These pockets of linguistic and biological diversity are primarily found in the receding rain forests. When we cut down a rain forest, we not only kill the habitat for countless species but also kill human habitat and the human-land interface (the “lanscape”) with the living ecosystem.

BOHMIAN DIALOGUE

After writing *Wholeness and the Implicate Order* (Routledge, 1980), physicist David Bohm embarked on an ongoing dialogue with the philosopher J. Krishnamurti. Out of that process he articulated a position on dialogue itself in a book called, aptly enough, *On Dialogue* (Brunner-Routledge, 1996), which had a considerable influence on the philosophy of consciousness and methods of communication applied to organizational theory.

Bohm had already observed communication problems within Western science. Consider the case of Albert Einstein and Niels Bohr. Einstein could not accept Bohr’s position that physical concepts could be ambiguous. Although they were close friends for some time and had extended discussions on this matter, they never resolved anything. In the end, they had nothing left to say to each other. What occurred between Bohr and Einstein was not a dialogue but more of an ordinary conversation or debate. The difference between ordinary conversation and dialogue, according to Bohm, is that in the former a relatively fixed position is maintained and one party tries to convince the other of its correctness. In dialogue, both parties hold in abeyance their own personal and cultural thoughts and beliefs—their “tacit infrastructure”—while listening deeply to what is being said and endeavoring to understand it fully. Listening is more important than speaking. Understanding is more important than persuading another of one’s position. There is no agenda in dialogue, nor is there an expectation of a result.

I believe that Bohm became interested in the spirit of dialogue, at least initially, to resolve the differences within Western science. He understood that those differences often arose out of philosophical assumptions that would normally be considered outside the purview of science—that the way science is used depends upon one’s worldview.



JOEL NAKAMURA/VEER

Every worldview, like every paradigm, is partial. It unconsciously includes certain types of experience while unconsciously eliminating others. Western science makes somewhat arbitrary decisions all the time about what is permitted within the purview of science and what is considered pseudoscience.

Bohm's ideas on dialogue influenced more than the Western world. They also had an influence on Blackfoot elder Leroy Little Bear, former dean of the Native American Program at Harvard, who upon reading Bohm's work and meeting theoretical physicist David Peat, was moved to initiate a series of "science dialogues" among Bohm, Peat, Native elders, and other quantum physicists and linguists. They began in 1992, the last year of Bohm's life, and continue to this day. (The Fetzer Institute sponsored the first dialogue. Subsequent dialogues were sponsored by MIT until 1999, when SEED Graduate Institute assumed sponsorship.)

Little Bear approached Bohm for a few reasons:

- 1) Little Bear knew that in the quantum realm everything is in dynamic flux; there are no separate and discrete things to measure. This is quite similar to a Blackfoot worldview.

- 2) Little Bear knew that Bohmian dialogue was similar to the Native American talking circle, so Bohm would listen to a Native worldview.

- 3) Bohm had been experimenting with what he called the *rheomode*, a "verby" form of language that was meant to reflect the constant movement of the cosmos. Native languages are similar to Bohm's rheomode, for they are also based in process and relationship. Sakej Youngblood Henderson says that in the Algonquin language people can go all day long without uttering a single noun.

UNMANIFEST REALITY

Perhaps the biggest difference between Native and Western science is that Native science considers both manifest and unmanifest reality equally, whereas Western science, at least until the quantum era, has focused much more on manifest reality—what can be seen and measured.

The emphasis on unmanifest reality in Native science is also found in Native languages. Almost twenty-five years

The Science of Goethe

Shamans throughout the world have known for millennia that the human being is the greatest tool available for acquiring knowledge. Using their bodies, minds, and spirits to gather vital information about the world, shamans have understood that epistemology (how we know what we know) is closely linked to consciousness. Shamans participate in the world and gain knowledge in a way that is rarely understood by modern people: through direct participatory knowing.

In the wake of the Newtonian revolution, Johann Wolfgang von Goethe (1749—1832) dared to propose a different sort of science that was like these shamanistic traditions holistic, participatory, and qualitative. Although historically known for his poetry and prose, Goethe was alarmed that mechanistic science was encroaching into the realm of living systems. He felt that reductionistic, analytical thinking, when applied to biology and related disciplines, was inapplicable at best and dangerous at worst.

Through painstaking research, he established a three-step method of investigation designed to facilitate the perception of phenomena directly. The first step is to change one's mode of consciousness to the intuitive-holistic mind, commonly found in indigenous worldviews, through such practices as drumming, ecstatic dance, or a general change in attitude toward one of thanksgiving, respect, and receptivity. The next step, active observation, rests on the belief that the observer affects the observed, an idea that is integral to quantum theory, which came nearly a century after Goethe. The last step of Goethe's method asks the researcher to become an organ of expression of the phenomenon, like the shaman who becomes possessed by a plant, animal, or nature spirit in order to gain knowledge or power and then communicates from that perspective.

Goethean science is currently undergoing a revival, especially in the discipline of ecology. The biological work of Jochen Bockemuhl and Nigel Hoffmann, as well as the flowforms created by John Wilkes (an example of which resides in the IONS Regenerative Design garden), are part of this emerging trend.

—Kevin Feinstein

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prior to the publication of *Wholeness and the Implicate Order*, linguist Benjamin Whorf wrote a controversial collection of essays published posthumously in 1956 under the title *Language, Thought, and Reality* (MIT Press, 1964). In an essay entitled “The American Indian Model of the Universe,” Whorf states that implicit in the structure of Hopi language, culture, and worldview are “two grand cosmic forms . . . which as a first approximation in terminology we may call MANIFESTED and MANIFESTING (or UNMANIFEST).” Verbs in Hopi do not distinguish tense in the way Indo-European structure does. The “manifest” comprises everything related to the physical universe, but with no distinction between present and past. It does not include what we would call the future. The “manifesting” includes what we refer to as the future, “BUT NOT MERELY THIS:

[I]t includes equally and indistinguishably all that we call mental—everything that appears or exists in the mind, or as the Hopi would prefer to say, in the HEART, not only the heart of man, but the heart of animals, plants and things, and behind and within all the forms and appearances of nature . . . in the very heart of the Cosmos itself.”

The striking similarity between Hopi grammar as analyzed by Whorf and reflected in Bohm's concept of implicate and explicate order led linguist Dan Moonhawk Alford to make the startling claim that Bohm may have adopted those concepts from linguistics. Bohm himself said, “One reason we do not generally recognize the primacy of the implicate order is that we have become so habituated to the explicate order and emphasized it so much in our *thought and language* [italics mine] that we tend strongly to feel that our primary experience is of that which is explicate and manifest.”

Whorf's description of Hopi grammar as a unified space-time worldview compared to the differentiated space and time worldview of Newtonian physics has interesting implications. A case can be made, for example, that Native languages may be uniquely suited to understanding the quantum realm, as the science dialogues organized by Little Bear and David Bohm have tended to confirm. It's not just that Native languages have more verbs or no need for nouns. As Blackfoot tribesmen Little Bear and Ryan Heavy Head noted, in the Blackfoot language there aren't even nouns or verbs as we normally describe them

in relation to each other; instead, linguistic meaning is something similar to events emerging out of a fluid, constantly moving, interconnected flux. The Blackfoot worldview of synergistic, interconnected relationship is beyond the imagination of a Newtonian worldview, but much closer to a worldview of quantum entanglement or nonlocality.

THERE IS NO SEPARATION

When Bohm speaks of the undivided wholeness of the cosmos and the superimplicate order that is behind and within all things, he invokes religious ideas of an ineffable and unknowable ground of being—Brahman, Tao, and so forth. The meeting ground for science and religion is indeed upon us. We live in very exciting times. Now is the time for dialogue across what is known as science and religion or spirituality, and between and among disciplines, in a search for what Buckminster Fuller called “comprehensivist” thinking—the largest patterned integrity that is trans-disciplinary and “wholistic” without borders, a nonhabitual, nondetermined, nonlocal thought that is connected with Spirit. It is what IONS would call noetic consciousness, what Emerson called the Oversoul, and Jung the collective unconscious. It could be the outcome of what cultural linguist Matthew Bronson has called “Big Tent Science.”

The real illusion that has permeated Western consciousness is our imagined separation from the natural world. Now that the quantum revolution has exposed the impossibility of separating the observer from the observed, reuniting our current science with the ancient sciences among indigenous peoples, the concept of nonlocal thought and radical interconnection with the natural world is being re-understood. It is my desire that education, and all of society, be re-envisioned with this connection in mind. 🌐

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“OUR WORLD IS IN
GRAVE, GRAVE TROUBLE.
BUT IT RESTS IN GOOD HANDS,
BECAUSE IT RESTS IN YOURS.”

—Roger Walsh

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