

A Report on the Fetzer Institute-sponsored Dialogues Between Western and Indigenous Scientists

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A Presentation for the 1993 Annual Spring Meeting of the
Society for the Anthropology of Consciousness - 4/11/93

Overview

Last year I was invited as a working participant in the highest-level intellectual conferences ever held between the first nations of the American continent and its historic European invaders. After 500 years of bumping bodies together, there was finally a meeting of the minds between these ancient cultures. World-class quantum physicists met with the cream of Native American intelligentsia, with field-experienced linguists in the middle, in order to see if any points of agreement could be found in a meaningful dialog between these otherwise incommensurable cultures.

The dialogues were sponsored by Fetzer institute in two conferences: In May and December '92, at Kalamazoo and Banff, but I'm focusing on the first one. A transcript of the conference should be available late this year.

First two days: Small, preliminary, laying out Native American views for physicists; then, in larger meeting, three days, with time, space & language as the major topics.

Participants

- Quantum/consciousness physicists: David Bohm, David Peat, Sam Kounosu
- Linguists: Me, Clem (Al) Ford, Buff Parry
- Native Americans: Sa'ke'j, Little Bears, others
- Psychologists: Paul Grof, others

My Role

I was asked to be a working participant in this dialogue primarily because of my unwavering support for the principle of linguistic relativity and other ideas of linguist Benjamin Whorf over the past 20 years, despite having to swim against the prevailing academic tide to do so. My role was to help translate concepts between the two worldviews and point out the deeper causes of communication problems between them.

The Fulfillment of a Personal Dream of David Bohm

It wasn't until during the conference that I found out that David Bohm, once an associate of Einstein, had been the real instigator behind this meeting--that this had been a dream of his for decades, ever since reading what Benjamin Whorf had to say about Native

American languages being verb-dominated. In fact, this had been the third time he had tried to pull such a meeting together, and finally his persistence paid off and everyone was able to coordinate their calendars to make it happen.

Historic as far as Native Americans are concerned

(Sa'ke'j:)* It was an amazing experience to get that kind of respect, for most Native Americans, to be sitting at the table with the greatest scientist on some kind of cognitive equality, and come to certain agreements that our language may better describe the subatomic world... than their language. but they don't know any other language, and they are very curious about why we would have pre-knowledge of something hat their methods and rules are just arriving at.

Noun/verb-dominated Languages

And what did Whorf mean by verb-dominated language? Whereas every sentence in English must properly have a subject, a noun or noun phrase, and a verb, many if not most Native American languages can have sentences with no nouns at all. 'Rehpi,' a full sentence in Hopi referring to a celestial event, means 'flashed,' where we have to say 'the lightning flashed.' But this goes much further: sa'ke'j says that when he's speaking mi'kmaq back on the reserve, he can go all day long without ever uttering a single noun. this statement is mind-boggling to most English speakers. So much of our facts and knowledge are wrapped up in nouns, so what would all that knowledge look like in a language that doesn't value nouns in the same way? This includes all concepts, all the way to 'god'.

(Sa'ke'j:) We don't have one god. You need a noun language to have one god. We have forces. All forces are equal and you are just the amplifier of the forces. The way you conduct your life and the dignity you give to other things gives you access to other forces.

Even trees are verbs instead of nouns: The Mi'kmaq named their trees for the sound the wind makes when it blows through the trees during the autumn about an hour after sunset, when the wind usually comes from a certain direction. So one might be like a 'shu-shu' something, and another more like a 'tinka-tinka' something.

Although physics in the western world has been essentially the quest for the smallest noun (which used to be a-tom, 'that which cannot be further divided'), as they went inside the atom things weren't acting like nouns anymore. The physicists were intrigued with the possibilities inherent in a language that didn't depend on nouns but could move right to verbs when the circumstances were appropriate.

Points of Agreement between Physicists & Native Americans

1. Everything that exists vibrates

This point of agreement is important because it moves beyond our usual 'thingy' or particle notion of existence based on raw sensory impressions, which is favored in the indo-european language family, and allows a justification on the part of Native Americans for the existence of spirits.

2. Everything is in flux

(Sa'ke'j:) The only constant is change--constant change, transformations; everything naturally friendly, trying to reach a more stable state instead of bullying each other around. That kind of process the English language doesn't allow you to talk about too much, but most Native American languages are based on capturing the motions of nature, the rhythms, the vibrations, the relationships, that you can form with all these elements, just like a periodic table in a different way: relationships rather than a game of billiards, where you only count the ones that go in--all of their motion doesn't count.

3. The Part Enfolds the Whole: (not just whole is more than the sum of its parts)

(Sa'ke'j:) When we wear leathers and beads and eagle thongs and things like that, it's not seen as totally ludicrous, as decoration - it's seen as containing something you want to have a relationship with.

4. There is an implicate order to the universe

(Sa'ke'j:) This implicate order holds everything together whether we want it to or not, and exists independently of our beliefs, our perceptions, or our linguistic categories. It exists totally independently of the methods or rules that people use to arrive at what it is, and David Bohm's captured that with the great phrase the implicate order, versus the explicate order of things that they can explain quite concretely, such as a rock falling out of a window. This also agrees with the lakota phrase 'skan skan,' which points to the motion behind the motion.

5. This ecosystem is basically friendly

Sa'ke'j maintains that the planet, and especially the Americas as well as the physical universe, are basically gentle and friendly: You don't have an electron jumping and bullying into other(s) unless it knows it's missing a stable state and knows it can reach that stable state and increase its own stability.

6. Nature can be taught new tricks

(Sa'ke'j:) We also agreed that that world out there that exists--that reality, not imaginability--can be taught new tricks with the cyclotron; and what was raised in the meeting was, are these new tricks beneficial, or will they create a hostile universe on their own, independent of scientists, once they teach electrons how to jump and how to amass the energy to jump, and it becomes a bullying, hostile biological world.

Reminds me of Alan Watts talking about how the universe has had to learn how to get ever smaller and ever larger as we probe it with microscopes and telescopes, receding ever further in the distance as self observes itself.

7. Quantum Potential and Spirit

After listening to the physicists and American Indians talk for a few days, it struck me that the way physicists use the term potential, or quantum potential, is nearly identical to the way Native Americans use the term spirit. They all agreed there was something similar going on.

8. The principle of complementarity

Physicists for all this century have realized that our usual notion of bipolar or black & white opposites was insufficient when working with nature. The first clue came when they asked incoming light, 'Are you particle?' and it answered Yes; 'Are you wave?' and it answered Yes. This is equivalent to asking whether something is a noun or a verb and getting a yes answer to both--which is exactly how Native American language nouns are made up: as verbs with suffixes that make them temporarily into nouns for discussion sake. This yes-yes complementarity is foreign to Indo-European languages, but quite common in other language families (such as the Chinese notion of Yin-Yang), and represents a higher level of formal operations, in Piaget's terms, referred to by some as post-formal operations--that which lies beyond normal Western Indo-European development.

Memorable Moments

Looking out window at the wind/flux/spirit

At one point during the fourth day of the conference, Sa'ke'j and I were facing an expanse of floor-to-ceiling windows looking onto a forest outside the plush Fetzer institute, and the trees were swaying back and forth. The physicists had been looking at the wall behind us for hours and hadn't seen the dramatic happenings outside. Sa'ke'j had them turn around and look outside and said, 'We've been talking about the flux all day. There it is. What's causing those trees to move? You can call it the wind, but you might as well call it spirit.'

Report on Blackfoot sacred geography in second meeting, time permitting

The Blackfoot Nation just completed a project where, using a map of western Canada, they took out the modern names and, on consultation with elders, put in the old names of Blackfoot geography. When they were through with Bow Mountains, Elbow River, Flat Tummy Plains, and something with head and foot included, out popped a picture of Nabe the creator as a hunter. Thus, wherever they were on their land, they were also inside the creator's body, always relating to the heart.

David Bohm on last night

David Bohm died just a few months after the first conference. But the way I remember him most clearly is as he was on the final night of the conference, at the powwow: Barefoot, dancing a round dance around a fire to the beat of Native American drums, in the moon of the croaking frogs--with a smile on his face, as if he was now a part of something he had long wished for. He had seen how being part of a different language means paying attention to reality in different ways.

Conclusion

I knew that Sa'ke'j and Leroy had read Bohm's and Peat's works long before this historic conference and so were ready for them, but I supposed that the scientists knew very little about the American Indian worldview. I asked Sa'ke'j on my TV show whether he thought the scientists were ready for them.

(Sa'ke'j:) No, I think they were really in culture-shock for a while, until we started constructing a bridge toward them. We had them go through the pipe ceremony and stand at the center of our universe, and then we had them dance at night at a powwow we

arranged. We said well, if we're going to talk about your scientific universe, you have to compromise with us and get into our method, our rules of comic to describe the world.

And I think there's a way to see the Fetzer Dialogues as the fulfillment of a prophecy of sorts made over 50 years ago by Benjamin Whorf, who said:

We all know that the forces studied by physics ... are powerful and important. People generally do not yet know that the forces studied by linguistics are powerful and important, that its principles control every sort of agreement and understanding among human beings, and that sooner or later it will have to sit as judge while the other sciences bring their results to its court to inquire into what they mean.

I offer this as a tribute to David Bohm. Thank you.

*This and other quotations from Sa'ke'j taken from an 8/92 interview with Moonhawk on 'Reality, Mind & Language' TV show in Hayward CA. ([back to text](#))