Know Sweat: Defending an Indigenous Practice as Scientific Research

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About once a year I have the honor of journeying up about an hour or so beyond Las Vegas, Nevada and its spectacle of simulated Greenwich Villages, Parisian towers, and Italian grottos populated by a global village of gamblers. My destination is the opposite of all that – a small makeshift camp in the Nevada desert, a peace camp, just off the highway and directly across from the "entrance" to the Nevada Nuclear Test Site run by the Department of Energy, Bechtel Corporation and Wackenhut security forces. This is Corbin Harney's camp, the spiritual elder and leader of the Western Shoshone tribe, whose sacred land was illegally occupied during the Truman years (never to be returned) so that it could become the home for extensive experimentation and the development of America's nuclear science and weapons program. At the camp all manner of activism and community takes place between a wide-variety of people, both indigenous and not, but perhaps the single most important events that take place (according to Harney) are the sweat lodges that are run there daily. As Harney speaks of in his book, *The Way It Is* (1995), the lodges constitute a form of indigenous research and medicine (and so science) that is central to their understanding, practice of life, and relationship to nature. It is a place of community healing, religion, politics, and education altogether – a true "science for the people," so to speak.

But with the might of 10,000 suns and a 40-odd year legacy of deadly destruction quartered just across the road, one can imagine that DOE physicists hidden in Yucca Mountain's labyrinthine underground technological complex would split their sides with laughter at the thought that "sweats" and other forms of Shoshone indigenous practice are based upon and constitute a form of "real science." The proof is in the pudding, so the saying goes, and nuclear physicists can claim that there is no disputing that their bombs obliterate nature no matter where or when one explodes them, and that those who would like to inquire so as to substantiate and reproduce such results are more than welcome to find that the American military-industrial-corporate complex has indeed harnessed the power of nature to an awe-inspiring and terrifying extent.

That is, science relies upon the idea that "the material world ultimately judges the adequacy of our accounts of it" (Matthews in Stanley & Brickhouse 2000: 37). How, scientists might ask, can Harney likewise demonstrate that the maintaining of the sweat lodges cleanses his (or any other people) of radioactive toxins or creates harmony and balance between his people, others, and with nature itself? No doubt, the more enlightened physicists might admit, Harney's lodges may work as sites of research within the context of the Shoshone's belief system – but then they are little more than magical folk practices and not the sort of systemic knowledge and practice that deserves of being considered "real science" (Harding 1998). To the physicist, medicinal sweat lodges are subjective spaces, like churches, where groups can agree to believe in and define reality however they wish, but once those groups attempt to demonstrate their knowledge in the "real world," they are revealed as being either fanatical true believers or unable to meet the methodological rigors and necessities of science. At best they are "ethnosciences" (Cobern & Loving: 54).

The sort of nuclear science done at the Nevada Nuclear Test Site, then, is objective and its findings are universal – in the minds of the physicists who practice it – and indigenous "science" is more akin to a shared cultural belief involving aspects of faith and ritual. However, there are many reasons to defend sweat lodge practices and other forms of indigenous belief and interaction with nature as "science" – meaning "real science" – against the skepticism of high-level nuclear physicists and the increasingly global culture that answers to or shares their opinions. To this end, we will want to demonstrate two lines of argument here: 1) a critique of the claims made by Western science that it is the sole model for properly researching and knowing the natural world and 2) a reconstruction of the accounts of indigenous practices towards showing how they do in fact meet many of the criteria required of being considered a science anyhow.

Broadening Research Methods: Towards An Inclusive, Multicultural Science

We can begin by asking whether there is in fact a clear definition of what constitutes a science. "Science" hails from the Latin root, *scientia*, which meant "knowledge in the broadest possible sense" (Snively & Corsiglia: 9), with the much narrower and more expert understanding of "modern science" – meaning a Western science -- being mainly a creation of the 20th century. At

the least, the strong distinction between theoretical and practical knowledge does not emerge until the beginnings of industrialism in the 1700s, and the connection of science to technological power over nature does not generally occur prior to 1850 (Nader: 3). To be sure, something like a Western practice of science has developed over time, dating back to the ancient world, but there is no clear origin or set of criteria that would allow us to trace modern understandings of science linearly and exactly back through history in anything resembling a meaningful fashion. Instead, those aspects of pre-modern science that share theoretical or methodological affinities with Western modern science arose amidst a complex series of cross-cultural negotiations – from fair trade to imperial conquest – and so the claim that Western science itself has evolved as a singular, insular tradition is false.

That the history of science in the West is so multifaceted, and doesn't simply boil down to an easily explicated logical narrative about the discovery of a set of timeless laws may be one of the reasons that ideologues for Western modern science have so vigorously promoted the "unity-of-science" thesis as a ground for research. This thesis maintains "that there is one world, one 'truth' about it, and one and only one science that can, in principle, accurately represent that 'truth'" (Harding in Figueroa & Harding: 52). It also requires "that there be one and only one kind of ideal knower – presumably the 'rational man' of Enlightenment Liberal political philosophy" (52). In modern times, these ideas about the nature and purpose of science have taken root so deeply that for a great many they are "a central component of their personal, professional, and public identities" (54), a sort of morality that defines a specific type of community. Harding's insight here is important because it highlights the social aspects of such scientific belief, emphasizing its disciplinary and institutional character as "officially sanctioned knowledge which can be thought of as inquiry and investigation that Western governments and courts are prepared to support, acknowledge, and use" (Snively and Corsiglia: 9). Western modern science, then, has branched off from a long history of trans-cultural intellectual and technological "borrowings," assimilating other's knowledge while downplaying (or ignoring) the worldview associated with that knowledge, to support a questionable socio-political project bent on universalizing its conclusions.

Technoscientific marvels such as the Nevada Nuclear Test Site only serve to remind us that the socio-political project for which Western modern science functions is itself one of securing the base of hegemonic power, which includes (amongst other things) Western modern science's complicity – or "co-construction" – with European-American processes of imperialism (Third World Network in Harding 1993, Harding 1998: 38-54), racism (Gould in Harding 1993), patriarchy (Cohn; Rose; Daniels in Wyer, et al.) and the domination of nature (Perry in Wyer, et al.; Scott in Nader) proper. Thus, some authors have additionally been led to reinterpret the acronym WMS, which can mean "Western modern science," to denote "white male science" (Pomeroy in Cobern and Loving: 9). Indeed, a wide-range of feminist, postcolonialist, and multiculturalist theorists have recently begun intense critique of WMS as a hegemonic and oppressive force, seeking thereby to open space up for other knowledge and research methods. Through this intervention, they seek to achieve a re-distribution of "the cognitive and social benefits of scientific and technological changes" (Harding 1998: 168) along more equitable lines, while also reducing the socio-cultural costs often brought on by the introduction of such changes.

Thus, in contradistinction to de-politicized research methodologies, counter-hegemonic research programs are being actively sought and created. Especially fruitful is the use of a "standpoint methodology" that challenges the universal claims (and aims) associated with the unity-of-science thesis and which centers the relationship between the production of hegemonic knowledge and the various socio-political cultural and institutional arrangements which fund, influence, and are in turn served by such knowledge (153-54). Instead of allowing researchers and scientists to perform, as Donna Haraway has put it, "the God trick" – or "the view from nowhere" – standpoint methodologies demand that research be conducted that affirms its socially constructed nature, done by people who belong to particular organizations, cultures, or nations, during a particular historical moment, and as part of either a mainstream or marginalized politics (Hubbard in Wyer, et al.: 157; Fox Keller in Wyer, et al.: 135).

By taking the standpoint of those underprivileged or excluded from the canons, methods, and normative socio-political frameworks of Western modern science, then, a kind of therapeutic is achieved in which the bias of such science can be better reflected upon and so transformed. Further, the "objectivity" that is hallmark of Western modern science can be made even *stronger*

by supplementing WMS' accounts of nature with the many differing accounts of other cultures and sub-cultures who have different locations *vis a vis* nature's order and the dominant manner of knowing it (Harding 1998). Exploring and defending counter-hegemonic research standpoints will provide new questions for scientists to explore, new ways of languaging those questions (and answers), new forms of organizing knowledge production, as well as re-configuring the geopolitical locations in which legitimate research takes place, who does it, and how (Harding 2003; Tuhiwai Smith; Sandoval; Wolf).

It should be pointed out, taking up such research methods would not be to create a "better picture" of the "one world" wished for by Western modern science – there is not a "big jigsaw puzzle" of nature's order out there to complete (Harding in Figueroa and Harding: 58). To re-emphasize, the claims to Western modern science's exceptionalism – that "modern European American societies alone of all the world's cultures have managed to produce transcultural, universally valid claims" (56) – are now shown to be just that: claims. Further, they are claims based on a faulty and politically-informed "Eurocentric triumphalism" that defined notions and projects of objectivity, rationality, and universalism towards its own interests (57). Therefore, we should no longer think of science as "a naturalistic, material explanatory system used to account for natural phenomena that ideally must be objectively and empirically testable" (Cobern and Loving: 58). Research is not informed by a set of abstract eternal verities in the minds of ideal knowers and experimenters, verities which somehow represent the material workings of nature's order. Snively and Corsiglia (2001) favor Ogawa's re-definition of science as "'a rational perceiving of reality,' where 'perceiving means both the action constructing reality and the constructing reality and the construct of reality" (9); but while they are correct that this broad, inclusive definition would make room for many other forms of research and knowing – perhaps including sweat lodge medicine – there are reasons to have misgivings about the continued use of modern Western language like "rationality" and "perception" as guiding research norms. To add that "rational" should be taken in a relativistic manner hardly helps, it seems, because such a move only fuels the reactionary charge of "relativism" that arises from the de-legitimation of a "universal" hegemonic project such as Western modern science.

Instead, researchers will want to think about the ways in which different cultures know and interact with nature's order generally, trying as best we can to begin from their standpoints in terms of discursively characterizing what it is they know and how they know it (Tuhawai Smith). With this in mind, we should not conclude in a relativistic manner that because no culturally-neutral location exists from which to describe universal knowledge that no dialogue between groups or cultures is possible. For, on the one hand, the globalization of Western modern science already has created the interstices for people to negotiate and share knowledge across cultural borders; and, on the other, while a plethora of standpoints exist from which to augment and challenge dominant order views, these standpoints do not then form closed identities from which no extra-standpoint discussion is possible (see Kahn and Kellner, on how the Internet facilitates this).

In Conclusion: Lodging the Theory in Indigenous Practice

To return to the example of the Shoshone peace camp outside of the Nevada Nuclear Test Site, here is a case study in which academics, feminists, anti-nuclear activists, environmentalists, animal rightists, new agers and indigenous peoples all dialogue and interact with one another in their shared cause of opposing the American military-industrial-corporate complex science and its control of hundreds of square miles in that region. Further, these activists not only dialogue across their own borders, but with the hegemonic establishment itself – they cross *its* borders (sometimes quite literally in fact), utilizing a variety of progressive technologies such as bio-diesel gasoline, solar panels, and the Internet that owe their origins to Western modern science. Dialogue across differences is possible then, and the new reconstructive project of understanding a multicultural wealth of scientific research standpoints should have as its *tentative* goal exactly this comparative aim of highlighting meaningful cultural and political differences towards negotiating them and allowing new transcultural science to emerge.

"Tentative" is an important word in this research context because, unable to do "the God trick" means that counter-hegemonic research and science programs are no less tethered to their historical, political, and cultural moments than is Western modern science itself. Such research arises from a particular location and serves a distinct, relatively local need – in this case, the defense of the sweat lodge (and other like indigenous practices) as "science." In other words,

exactly what science "is" and who "has" it needs to be understood as constantly changing and up for international academic debate. The answers to these sorts of questions are very much political and strategic.

The belittling of indigenous cultures, the labeling of indigenous peoples as "savage" and "barbaric," and so denying their knowledge as culturally-permeated magical belief (Freire: 17), has had odious historical consequences for them as peoples (Tuhawai Smith). As we have seen, the critique of the Western modern science that has constituted this political history finds that such science is itself culturally-permeated, however. In fact, some commentators, such as Laura Nader and Hugh Gusterson, even find plenty of examples of magical belief and ritualized religious behavior in the rigorous heights of Western physics itself (Nader; Gusterson in Nader 1995). Alternatively, an examination of other cultures – including marginal "pre-modern" indigenous cultures – reveals that they have forms of knowing and interacting with the natural world that are extremely meaningful (Apffel-Marglin), and in fact even possess qualities such as an empirical, evidentiary outlook and logical understanding that are central tenets of Western modern science (Goodenough; Scott; Bielawski in Nader 1996; Snively and Corsiglia: 12). On the other hand, they also can display the quality of "sustainability," to which much contemporary Western science and research aspires, but often fails to manifest. In this context, we should remember that the growth of Western modern science has depended to a large degree upon its conducting research on and assimilating knowledge from non-Western and indigenous cultures (Needham in Harding 1993), while WMS' corresponding tendency to either reject (or misunderstand) the worldview associated with such knowledge has led to grave ecological crisis incomparable with traditional ecological knowledge (Bowers: 77-125; Snively and Corsiglia; Kahn).

Respectfully, then, I believe that we can only conclude that the institutional designation as "real science" is something that primary indigenous practices, exemplified by the Shoshone sweat lodge, certainly deserve.[i] Doing so would not only be to more properly equate research methods and knowledge systems, but it would better tether academic research to a political project that attempts to overcome historical and political grievances, epistemological inaccuracies, and contemporary social, cultural and environmental inequities. This is not to say that hegemonic

cultural and environmental terror will abate simply by granting institutional legitimacy to other forms of research and science, but it is my argument that until high-level nuclear physicists come to "know sweat," so to speak, that the removal of indigenous peoples from their land and the complete and utter desecration of the same will be but little sweat off of the backs of the institutions and nations these physicists presently serve.

Notes

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[i] In closing, however, I would like also to offer a reason for brief caution about characterizing the sweat lodge, and other non-Western or indigenous research practices, as "real science." Some theorists of science education, such as Cobern and Loving, believe that to characterize traditional ecological knowledge as "science" is to allow it to be co-opted by the hegemonic status quo (64-65). In his many books circling this subject, C.A. Bowers appears also to question whether "modern science" is a term which could be meaningfully or flatteringly ascribed to more traditional methods. In interrogating a *real politik* of epistemological pluralism, as has been argued for here, these theorists feel that indigenous knowledge and practice is best characterized within its own domain, so as to be able to critique scientific bias and exclusivity better. I am sensitive to a critique such as theirs and we should be cautious of how, in using hegemonic terms such as "science" in connection with non-Western research practices, a form of paternalistic control (even in the name of progressive democratic values) is allowed to be once again re-extended over other cultures.

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