Confronting the Home-Field Disadvantage

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REVIEW ESSAY

Confronting the Home-Field Disadvantage

Book under review:


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This book provides a broad, historically informed, methodologically sophisticated argument for diversity in the conduct of psychological and anthropological research that seeks to understand the relationship between culture and thought. The authors’ focus is on the role of culture in human development, particularly contrasting orientations to nature between rural and urban Native American groups (the Menominee in Wisconsin and the American Indian community of Chicago) and European Americans from the same two kinds of settings. Supplemented by evidence from studies of the history of science and sciences studies, as well as other relevant cross-cultural research, their basic message extends to the enterprise of scientific inquiry broadly conceived. The book is written in an accessible and engaging manner that makes it an important resource for teaching, as well as research. A bit of history can help to explain why this book is so timely and why we have been allowed to devote a good deal of space to summarize its contents.

BACKGROUND CONSIDERATIONS

The shortcomings of a Psychology founded on samples of human beings who are largely Caucasian, highly educated, relatively affluent, mostly college-going young adults have been complained about loudly and articulately by cross-cultural psychologists ever since cross-cultural research began late in the 19th century. This complaint has been a regular feature of texts and handbooks devoted to cross-cultural psychology for the past half century (Lonner, 1989). However, until recently their arguments have largely fallen on deaf ears. Experimental
Psychology, long the ruling paradigm of International Psychology, discounted the evidence of extant cross-cultural differences on clear, rational, methodological grounds. Cross-cultural research, precisely because it is interested in studying people who have had systematically different kinds of lived experiences, cannot randomize culture and experimental treatment. Besides, many of the key psychological processes studied by experimental psychologists were assumed to be universal among humans, and perhaps across a wide range of species as well. In the late 1970s a colleague of Cole’s at the University of California San Diego said that he was simply misguided to study memory processes among nonliterate people because such processes should be studied in their optimum expression—among college students.

Recently, criticism of this a-cultural approach to understanding human psychological processes has begun to gain traction in mainstream academic journals, even trickling down into introductory textbooks. This shift in attitude almost certainly has multiple causes, including demographic changes in advanced industrial countries that have made de facto cultural diversity a common issue in daily life (though it was always an issue for those constructed as outside the cultural norm) and the intense, public, political, and policy battles to which increasing economic inequalities have led.

Within psychology, an important “watershed” event was the publication in Behavioral and Brain Sciences of an article entitled “The Weirdest People in the World?” (Henrich, Heine, & Norenzayan, 2010). Perhaps because of its catchy title and the venue it was published in, perhaps because it presented a comprehensive review that drew on a wide range of responses from commentators, the notion that psychology (and, by extension, the rest of the social/behavioral sciences) could not be constructed on a sample of WEIRD people (Western, Educated, Industrialized, Rich, and Democratic) seems now to be widely accepted, and more widely addressed in a serious manner.

Who’s Asking strongly supports efforts to carry psychological research and associated pedagogical practices well beyond the restrictions of a narrow sample of WEIRD subjects. In addition, it represents an important advance over prior practices in two important ways. First, the authors provide multiple examples of cross-cultural research that can withstand methodological criticisms that allowed experimentalists to ignore the results of much cross-cultural research in prior decades. Second, the authors provide abundant historical, as well as contemporary experimental research to demonstrate that diversity among the researchers who design and implement comparative, culturally informed research is an equally important, and considerably less well recognized, necessity when thinking about the conduct of science. These arguments carry particular weight with us because they are based on research that adheres both to criteria for effective scientific inquiry and to criteria of social justice. They are of clear relevance, beyond academic research on culture and cognitive development, in the domain of science education—the practical “real-world” problem domain that the researchers seek to transform.

The book can be divided into roughly two thematic parts. The first begins with an analysis of the history of science, marshalling considerable and convincing evidence against the popular notion that science is “objective, value-neutral, and structural” and represents the high road to “the truth” about humans and the world they inhabit. The argument continues by drawing on a good deal of psychological research, intended to provide the “foundational cognitive research” in support of their argument. The third theme reverses the lens through which the problem of cultural difference is viewed by summarizing a program of “Community-based” Design Research in which distinctive indigenous epistemological orientations toward nature become the basis for organizing instructional practices.
A Rough Narrative of the Sequence of the Argument and Its Basic Findings

Medin and Bang begin by “unsettling” the widely taken for granted view that the history of Western science taught in American universities is the history of World science. The traditional story begins with the Greeks, comes down to us through the European enlightenment scholars, and represents THE history of science. This science serves as the engine of human well-being and is putatively logical, objective, value free, and politically neutral.

Against this account, the authors bring an array of evidence that a great many of the discoveries attributed to Europeans in fact originated in Asia and the Arab world. (They point out that two of Jared Diamond’s three explanations for the power of Europeans in the modern era—gunpowder and steel—were imported from “the East.”) They also highlight the knowledge-producing practices (such as observation and tool-building) that are devalued by the Euro-centric narrative. In their words, we should not confuse a “universal science” with “Western ethnoscience.”

As a means of challenging both the “unity of science” and relativist approaches, the authors next examine the ways scientific models and theories depend on the goals, values, and perspectives that animate their development in the course of sociocultural history. Accordingly, the accuracy and usefulness of a given model or theory cannot be assumed to correspond to a single truth. Through examples such as the representation of a geographic location or explanations of results from brain research (where correlations may be imprecisely framed as “underlying” mechanisms), Medin and Bang remind us that the models created to understand reality are not reality itself; the map is not the territory.

Rather than treating this fact as a limitation, however, they exemplify the generative role of pluralism at multiple levels: in methods and approaches to research, in the levels of analysis within scientific theories, and in theoretical pluralism at the same level of analysis. What stands out in this discussion is not only the recognition of pluralism within scientific practice, but the argument for pluralism as a strength: “the social nature of scientific practice helps to undermine bias and increase the rigor of science” (Medin & Bang, 2014, p. 36). This discussion builds a foundation for asserting that cultural diversity (and specifically the diversity of researchers) is a powerful resource for the multiple perspectives on which pluralism thrives. Diverse science is better science.

By focusing on the role of values, Medin and Bang illustrate the fundamental point that the practice of science is imbued with power and politics. As they argue, denying the political nature of science is itself a political claim that rests on and reproduces privilege (those who disagree are biased, but “we” are objective) and advances the pursuit of knowledge for its own sake, apart from considerations of power and practice (p. 56). The authors clearly outline how values inform science even when bias is presumably eliminated—in decisions about what to study, how to frame research, which groups to focus on, which measures to use, and which questions to ask.

Questioning both the possibility and desirability of a “value-free” science, Medin and Bang highlight the need for an engaged stance that includes critical acknowledgment of scientists’ active role in knowledge production and the development of thoughtful and rigorous research that aligns with one’s values. Science is political activity.

As one example of cultural variation in scientific practice that lead to different truth claims, the authors present the case of Japanese and American primatologists. U.S. primatologists sought to be minimally intrusive and observe from a distance; they focused their research on male dominance and mating. The Japanese primatologists sought to develop relationships with the primates.
under study and focused more on features of their social relationships; they report that male rank was only one factor in determining social relations and group composition and that females (who had their own rank order) formed the stable core of the group (p. 78). In this case, different approaches, cultural values, and worldviews led to distinctively differing findings that bolstered the researchers’ preexisting, culturally pervasive beliefs and assumptions.

With respect to cross-cultural research, Medin and Bang’s review of this problematic topic lead them to focus on two issues that render research on culture’s relationship to cognitive development methodologically unacceptable in ways that reproduce unwarranted invidious comparisons.

First, there is “the home-field disadvantage,” which they identify as “the disadvantage inherent in research that takes a particular cultural group (or that group’s performance) as the starting point or standard for research, especially for cross-cultural research” (pp. 93–94).

Second, research methods and theoretical constructs are calibrated to the populations they have been selected and designed for: in psychology’s case, WEIRD people. A side effect is that these same tools are less well fit or even ill fit to other populations, in much the same way that any adaptation evolved for a particular niche will not function as well in other niches.

Medin and Bang both argue and demonstrate that the home-field disadvantage engenders subtle, but pernicious forms of bias. These include the ways cultures are marked or unmarked (research participants simply referred to as “people” are often U.S. university students, whereas nondominant groups are referred to in specific terms), or the ways in-groups tend to see the out-group as homogenous (such as majority Christian students recognizing the heterogeneity among Christians, but assuming they could discuss “how Muslims think”).

The two cultural groups that lie at the heart of Medin and Bang’s multimethod empirical studies are rural Native Americans from the Menominee Nation in north-central Wisconsin and rural European Americans living in an adjacent country. To enrich this contrast, they have, where appropriate, included urban Native Americans and non-native school children. This contrast pervades the research and theorizing for the last two thirds of the book.

As an analytic guide for their research, Medin and Bang draw upon two linked ideas drawn from Trope and Liberman’s (2000) “construal level theory.” The first is that situations can be construed in either concrete or abstract terms. The second is the idea that “psychologically close” situations are attended to at a concrete level, relative to psychologically distant situations. Medin and Bang apply these ideas to the analysis of cultural differences in people’s epistemological orientations toward what is termed the natural world, and the implications of these differences for science-related practices (2014, p. 110). In line with one of their central arguments, the research teams carrying out each study included an equal representation of European Americans and Native Americans.

These studies revealed a number of interesting differences consistent with two markedly different construals of nature and humans’ relationship to nature. Results included:

1. When asked to describe their activities, European American participants were more likely to report practices in which nature served as background, whereas Menominee participants were more likely to report practices in which nature was foregrounded (p. 115).

2. Whereas European Americans expressed a “caretaker” attitude that involved protecting the natural world, Menominee adults understood themselves as a part of nature (p. 118).
These results suggest qualitatively distinct models of human relationships with the natural world (as *apart from* vs. a *part of* nature).

3. Native-authored books for children were more likely to include illustrations or provide a “close-up” perspective, results that resonate with Medin and Bang’s analysis of psychological distance (p. 120).

4. When Menominee and European American adults described encounters with deer, both groups were likely to gesture, but only Menominee adults adopted the perspective of the deer (p. 124). This finding is then related to the authors’ observations of Native American teachers asking children to “put on your deer ears” as a way of inviting listening when going outdoors.

5. Books by Native authors were substantially more likely to employ over-the-shoulder or embodied shots (and commonly presented a nonhuman actor’s point of view) than books by non-Native authors (p. 125).

6. Menominee participants used multiple perspectives to evaluate animals, hunting being only one of them (p. 128), articulated underlying abstract principles such as “every kind has a role in the life of the forest,” and were more likely to discuss species in nature-centered roles (p. 129).

Overall, these studies provide solid and compelling evidence for specific cultural differences in the basic epistemological frameworks between Menominee and European American participants. Expanding on this central issue, the authors elaborate on foundational concepts within the history of Native American relational epistemologies such as “We are, therefore I am” (Burkhart, 2004), mutuality and reciprocity with the natural world (Cajete, 2004), and the notion of an original state of non-differentiation between humans and animals (Vivieros de Castro, 2004).

As Medin and Bang argue, relational epistemologies have implications for how science and science education get done. Thus, when the authors sought to study moral content within Native and non-Native authored children’s books, they realized that one could not “isolate any special subset of this relational complex and call it ‘morality’” (Medin & Bang, 2014, p. 140). They therefore sought to develop codes that better captured the notion of “living in relation” (p. 146). Drawing on literature that reveals the cultural nature of these orientations (such as the role of creation stories in explaining phenomena in the natural world), the authors argue that relational epistemologies are not simply abstract principles: “they are also embedded in practices that determine the expression of basic cognitive processes like observation and sense making” (p. 143).

Time and again, Medin and Bang are careful to avoid oversimplification of the issues they are addressing. For example, after demonstrating that psychological distance can explain a number of interesting results, they focus on the concrete limitations of psychological distance as a construct. Although psychological distance assumes that distance is symmetrical, questions such as “Is there an ideal or standard?” may reveal important complexities with regards to how people conceptualize human–nature relations. Although a typical animated movie may show humans as the standard (with animals wearing clothes and driving cars), the Menominee origin story has people emerging from the bear, which may position the bear as the ideal or standard (p. 147).

Chapter 11 initiates a reversal in the analytic lens used to make Native American epistemologies and practices the starting point. The authors begin this shift in perspective by providing a relatively brief, but powerful summary of Native American educational practices anti-dating
the appearance of Europeans and the long history of genocidal oppression through policies and practices that sought to “terminate, devalue and delegitimize the use of indigenous knowledge in all its forms” (p. 171). They trace this history through the post–civil war period in which Native American children were removed from their families and forced to attend boarding schools. These schools insisted on learning European cultural norms and gendered trades and are known for their horrific and abusive treatment of Native children. They also highlight the fact that the parents and grandparents of today’s schoolchildren experienced these historical traumas firsthand, part of what they describe as being recounted and discussed in the context of community-based design.

Against this backdrop, Medin and Bang highlight efforts to develop culturally based education in indigenous communities over the last 30 to 40 years. These efforts are organized around the recognition and use of indigenous languages, pedagogies that are congruent with traditional culture and contemporary ways of knowing and learning, and strong community participation, among other characteristics. These efforts stand in sharp contrast to the assimilative history of Indian education and lead the authors, in the spirit of Tribal critical race theory, to question why anyone would expect Native children to succeed within a system so hostile to their values and orientations (p. 176).

With these considerations as background, the authors turn their attention to how cultural differences in epistemological orientations can be used to develop more effective science curricula and pedagogy. The authors connect such efforts to improve science education directly to their central argument: “If different epistemological orientations toward and with nature affect how science gets done and if these practices are also reflected in curricula and how science gets taught, then science learning should also be effected by learner epistemological orientations” (pp. 179–180).

Introducing their own research on science education, Medin and Bang offer a more concrete picture of such design work, including the range of participants (elders, parents, teachers, youth, and other community members) who composed the community-based design teams and the principles that developed in the work. These principles include, for example, using local, place-based instruction and hands-on experiences; seeing humans as part of nature (rather than nature as an externality); and inviting the learner to view phenomena from multiple perspectives. These principles are then illustrated through research in a summer science program designed to support students’ navigation of multiple ways of knowing (p. 187). In a program on plant biology organized around the big idea that “everything is related,” students’ observations and interactions with plants were framed as recognizing and remaking relatives. A visit to a forest preserve also began with a history of the preserve and Native people’s relationships with the forest prior to European contact (p. 188), and students were subsequently invited to locate their plant and learn about the buckthorn from the plant’s perspective. The vignette does well to illustrate what it means to support young people in navigating multiple epistemologies and learning about their community’s ways of knowing.

Consistent with their expectations, Medin and Bang find shifts among students in forms of knowledge and explanations (to include more specific organisms and systems-level reasoning) and an increase in the number of participants who came to identify community (including parents and elders) and not just science textbooks as a context for learning science. As the authors state, “From our perspective, the inclusion of school, home, and community as well as their own selves as sources of science knowledge is perhaps the most empowering orientation our students could take up” (p. 191).
In addition to documenting knowledge shifts among students, Medin and Bang provide a window into the process of codesigning effective, culturally relevant learning environments and related forms of community-level change. Analyzing transcripts of design meetings involving teachers, elders, community members, and researchers, the authors (a) describe how the design principles just exemplified both guided and emerged from a shared history of practice, (b) assert that developing culturally based science education is not straightforward, but that figuring out what such practices mean was a core part of the work, and (c) illuminate the kinds of rich dialogue and learning that emerged within the design teams around a core set of themes. These themes included the role of language (the ways scientific language is used as a tool for domination, the power of using Native American languages in science learning), how science is defined (as a set of facts or practices, or a way of knowing; Native Science as distinct from Western Science), and how culture is conceptualized (moving from culture as something to “add to” science to culture as a foundation upon which to build science). Ultimately, the authors found that self-determination through community engagement with and ownership of science and science education were the most important outcomes of community-based design (p. 232).

Medin and Bang make the compelling case that cultural differences in epistemological orientations are not simply a matter of people doing the same thing in different ways. Rather, different things are “being done in different ways for different purposes that are constrained by different values” (p. 236). Accordingly, they argue that equity in science education will not be achieved as long as science itself remains pure and beyond examination (p. 240). They imagine—and are working to enact—a world where the infrastructure of science actively supports diverse perspectives, and where students and scholars from historically underrepresented communities can pursue science careers “as an opportunity to express their deepest values and an effective way to give back to their communities” (p. 241).

For all of the many lessons it contains, this book is essential reading for anyone seeking to develop a historically grounded, methodological sophisticated, and socially engaged approach to human development.

REFERENCES