Epistemic Ecosystems or Epistemological Relativism

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In "Educational Epistemic Ecosystems: Re-visoning Educational Contexts on Code's 'Ecological Thinking'," James Lang argues the following as his primary thesis:

> Knowledge is constitutive of embodied knowers where each knower knows different — and knows *knowing* differently — which necessarily renders knowledge, singular, into knowledg*es*, multiple. Since knowledges are constitutive of embodied knowers, they cannot be "transmitted" intact from teacher to students; rather knowledges are *constructed* relationally, most often in conversations with others.

There are a number of interrelated epistemic claims throughout the essay but the above quote captures the essence of Lang's overall argument. The thesis advanced in the essay may be summarized by three major claims: (1) Each person "knows" differently and, hence, there are different knowledges or ways of knowing; (2) The pedagogical implication of the first point is that knowledge cannot be, to use Lang's term, "transmitted intact" from teachers to students; and finally (3) knowledges are constructed by communities of knowers. I'll begin by suggesting the first and third major claims appear incommensurable since knowledge cannot be both different for everyone and coconstructed by communities of related knowers.

In my following analysis, I attempt to show that Lang's position, one derived from Lorraine Code, is based on a slippery epistemic discourse that ultimately advances a weak case for epistemological relativism and radical constructivism. The source of Lang's confusion is adopting a discourse that fails to distinguish between subjectively constructed belief and knowledge.

Individuals or different cultures may have a different set of beliefs about the world, and some of these beliefs may even qualify as knowledge. However, Lang's claim that "each knower knows differently" reduces knowledge to subjective belief by circumventing any discussion of the evidentiary condition necessary to support knowledge claims.

Harvey Siegel elucidates the common problem of confusing belief with knowledge, especially as it relates to education: "Some prominent authors in the multicultural arena use knowledge as a synonym for belief, thus rendering epistemological diversity as a matter of systematic differences in belief."[1] As Siegel points out, this claim, at least as far as it goes, is entirely unproblematic and may even qualify as a form of empirical anthropological knowledge. For example, culture *x* might believe in some theistic metaphysic as affording the foundation for human experience while culture *y* holds no such view. In the absence of evidence, neither of these specific beliefs constitutes an epistemological claim and what remains is merely a descriptive account about how different people or cultures hold different belief systems or worldviews.

I am compelled to address briefly what Lang refers to as "mainstream epistemology," a term that seemingly rides roughshod over an area of philosophy that

includes many different approaches. Regardless of what epistemological tradition one accepts there is an accompanying expectation that knowledge requires some form of publicly verifiable evidence. To talk about "knowledge" in any other fashion is simply to fall victim to linguistic confusion where belief and knowledge become interchangeable concepts.

Unlike knowledge, a subjective belief, although certainly a necessary condition of knowledge, is not grounded in publicly accessible warrant or evidence. When *x* believes *y* because *x* has warrant or evidence to believe *y*, that is not belief but knowledge, and propositional knowledge claims (that is, statements that can be demonstrated as true or false) lend themselves to the type of beliefs that might qualify as knowledge. Lang's ill-defined claim that "each knower knows differently" would seemingly elude such public justification as a requirement (for example, suppose two "knowers" hold contradictory beliefs) and leave knowledge an entirely subjective construct.

Any claim of knowledge, whether it emerges from an individual or a particular cultural group, must offer some form of evidence or warrant accessible to all rational individuals. There must at least be the possibility of general agreement regarding truth claims relative to shared epistemic standards or criteria. The capacity for formulating such distinctions hinges on shared conceptual frameworks and shared meanings that make agreement about what qualifies as knowledge possible. This feature of knowledge lends credibility to Lang's third claim, unfortunately the one his overall argument undermines. Frederick Copleston describes the objective standard required to substantiate knowledge claims that overrides subjective, intersubjective, or cultural beliefs:

> Tom, Dick and Harry, namely particular people with their particular limitations [and particular beliefs], do not enter into the matter at all. Or, rather, they enter into it only as exemplifying the human subject as such. That is to say, conditions of knowledge that hold for the human subject [in general] obviously hold for Tom, Dick and Harry.[2]

Tom, Dick, and Harry, although perhaps fully committed to their respective positions cannot make legitimate claims of knowledge contrary to standards of evidence that transcend individual and culture bound claims. Even inter-subjective agreements or conventions that lack attention to such epistemic standards are reduced to the category of belief.

Importantly, I do not wish to gloss over the difficulty in arriving at criteria for epistemic judgment. As Siegel appropriately points out,

> The proper understanding and application of such criteria are complex and require not only statistics and qualitative methods courses but also epistemology courses in which the careful articulation and critique of such criteria are themselves a focus of concern, and philosophy of science courses in which their place in a full understanding of scientific research and its appropriate methods and constraints is itself an object of study. I do not mean to suggest that these criteria are themselves unproblematic or uncontroversial; they are neither. Nevertheless, without an appeal to some such criteria, there can be no critical appreciation of the strengths and weaknesses either of diverse epistemological approaches or of the criteria in terms of which those approaches are evaluated.[3]

The pedagogical implication of Lang's initial claim is that knowledge, defined as subjectively constructed belief, cannot be transmitted intact from the head of the

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teacher to the head of the student. But what is actually being claimed here? Anthony Lorsbach and Kenneth Tobin support the position Lang advances by employing a virtually parallel claim to advance their support for radical constructivism:

> Objectivity is not possible for thinking beings. Therefore, constructivism asserts that knowledge resides in individuals; that knowledge cannot be transferred intact from the head of a teacher to the heads of students.[4]

Counterexamples easily illustrate the epistemological and pedagogical confusion undermining these claims. For example, we know from an abundance of collected historical evidence and historical experts that Caesar crossed the Rubicon in 44 B.C., but how is this knowledge subjectively constructed in the "heads of learners" and why is it impossible to transfer it as intact propositional knowledge from teacher to student?

Similarly, we know from extensive scientific experimentation that smoking causes cancer. This knowledge is based on collected evidence by experts in the field of oncology research and not by subjectively constructed cognition. Of course, these examples of intact knowledge transfer should not obviate the desirable education practice of students self-evaluating the evidence supporting these claims and, hence, taking greater ownership of the knowledge in question. But knowledge in these cases, contrary to Lang's suggestion, does not reasonably reside solely in the heads of learners.

Siegel offers a lucid description of where radical constructivism goes wrong by employing the scholarship of Robert Nola:

> We can and should agree with constructivism that the "construction" of beliefs is a necessary construction of knowledge. But it cannot be sufficient since beliefs can be false or ill founded as well as true or justified. The radical account of knowledge stands ready to count any viable student construction as a sufficient condition for knowledge [or] worse, it either downplays or misrepresents the epistemic role of reasons, evidence and warrant justification.[5]

Due to the lack of sufficient evidence, for example, an individual, in spite of his or her belief construction, cannot legitimately claim as knowledge that the Holocaust is a figment of the fertile imagination of post-war Jewish conspirators.

In my view, Lang's essay fails to provide an account of what evidence or warrant might be applied to separate knowledge and belief other than a brief reference to empirical justification softened by "particularities and minutiae," a position that begs the question of how this evaluation approach would be operationalized. The essay also includes a discussion of naturalized epistemology, a position that seemingly runs counter the more radical claims advanced by Lang. There are different traditions in naturalistic epistemology but the general idea that agents are "physical systems in causal interaction with the environment and a person knows p provided her belief that p has a suitable causal connection with a corresponding state of affairs" lends no easily detectable support to Lang's claim of epistemic subjectivity.[6]

Occasionally, Lang's essay conflates epistemology with certain moral or political perspectives such as "[in] mainstream epistemology humans conquer nature." We are similarly advised that mainstream epistemology is to blame for legal

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injustices against women, and mainstream epistemology is also associated with some essentialized male perspective. None of these dubious claims are supported by evidence or any substantive corresponding argument in the essay.

I will conclude my comments by suggesting that Lang's essay is motivated by noble moral intentions. For example, there is indeed a need to contextualize our instruction, to understand and, when warranted, respect the beliefs and worldviews of our students. From an educational perspective, we ought not to violate student rationality during our instructional practice. However, these positions are best supported by normative and ontological arguments rather than slipping into the murky conceptual territory of epistemic subjectivism and radical constructivism.

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1. Harvey Siegel, "Epistemological Diversity and Education Research: Much Ado About Nothing Much?" *Educational Researcher* 35, no. 3 (2006): 3.

2. Frederick Copleston, *A History of Philosophy vol. 6* (Hew York, N.Y.: Doubleday, 1959), 214.

3. Siegel, "Epistemological Diversity and Education Research," 7.

4. Anthony Lorsbach and Kenneth Tobin, "Constructivism as a Referent for Science Teaching," in *Research Matters to the Science Teacher*, National Association for Research in Science Teaching Monograph 5 (1992), http://www.exploratorium.edu/IFI/resources/research/constructivism.html.

5. Harvey Siegel, "The Bearing of Philosophy of Science on Science Education, and Vice Versa: The Case of Constructivism," *Studies in History and Philosophy of Science* 35 (2004): 185–98.

6. *The Cambridge Dictionary of Philosophy*, ed. Robert Audi (Cambridge, U.K.: Cambridge University Press, 1995), 519.

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