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Embodiment and its Relation to the Tacit: Response to Nikkel

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ABSTRACT

In this response to David Nikkel's review essay on Understanding the Tacit*, his suggestion that the book fails to incorporate insights from embodiment theorists is addressed. It is noted, against his appeal to the example of Lakoff's and Johnson's discussion of the bodily origins of metaphors used in reasoning, that there are problems with treating particular embodied elements as ineliminable. Also noted is the evidence of Luria's studies of reasoning among the unschooled, which suggest that syllogistic inference is learned, which raises questions about the relation of embodied knowing and these kinds of inferences. It is suggested that another kind of embodiment thinking, involving emulation, is a better way to approach higher reasoning, and by extension also the kind of specialized knowledge usually discussed as tacit knowledge by Polanyi.*

I thank David Nikkel for his generous and interesting review essay on *Understanding the Tacit*, which highlights a number of important issues. Much of his commentary relates to embodiment, which is an important and muddled topic, for several reasons I will try to briefly explain. I also want to express agreement on some of his other points, such as similarity of responses. What I have tried to give, in this book and elsewhere, especially the last chapter of *The Social Theory of Practices* (1994), is an explanation of why people behave similarly, but one which does not involve a kind of hidden collective server from which they download the "same" mental contents.

There is a common theme to my reluctance to endorse certain accounts of the tacit, which relates to the use of analogies. The neo-Kantian analogy that I take to be both paradigmatic and misleading is between explicit forms of reasoning and the reasoning that is commonly attributed to the tacit realm, notably the concept of presuppositions. But the issue extends to a whole range of analogical notions, such as conventions, tacit rules, and so forth. It is convenient for us to think of there being such things as "concepts," which have a specific meaning, shared between people, and to think that there is also some

sort of psychological analogue to these things: convenient, but groundless. The psychological experimental evidence we have is muddled and does not point in this direction, as I note in the book. Moreover, as I argued in *The Social Theory of Practices*, there is a basic issue with all of these analogical notions, especially in connection with the idea of sharing or sameness: there is no known mechanism that gets the same thing into multiple heads (or bodies, one of the explicit concerns in that book) in the fashion implied by the analogies.

How does this relate to embodiment as discussed in the cognitive science literature? Nikkel suggests that embodiment is not only important but basic, and that I don't pay enough attention to it. He cites in particular Lakoff and Johnson. Their problem is to locate "our conceptual system" in the individual´s "perceptual and motor systems" (1999, 555). This project raises some red flags for me. First, the idea that there is such a thing as "our conceptual system" is problematic, unless it is used in a very loose sense. Perhaps our bodily concepts are more or less universal, despite the specific differences between cultures in the way they speak about the body. But even if there were universal body schemas, one would then also need to explain how the highly varied sorts of things that come under the heading tacit knowledge relate to these universal features of embodiment.

Lakoff's and Johnson's argument is controversial. Andy Clark notes that the issue is with their "claims of tight links between forms of embodiment and basic conceptual repertoires" (Clark 2008, 54). There is a general problem here that applies to many cognitive science explanations. We may be able to reasonably argue that something—such as bodily states—"plays a role" in higher cognitive processes at least some of the time, without being able to conclude that they are essential to these processes. Andy Clark puts it thus:

> the question, as will become increasingly clear, is not whether or not gross bodily states and processes play a role in the determination of mental states, but whether they play a unique, non-trivial, and ineliminable role. One test for this is to ask whether a creature lacking that kind of body could nonetheless enjoy those very same mental states (Clark 2008, 43n8).

There are other ways to skin a cat, so to speak: we know that the same cognitive performance can be achieved using different means. What we don't know is which of these ways is actually operating in a given cognitive performance: the one dependent on gross bodily states, or some alternative "not tethered in any simple way to gross bodily bedrock" (Clark, 2008, 54). In short, while it makes sense to note that at least sometimes metaphors relating to the body are used in advanced conceptual thinking, reducing it to these metaphors, by insisting that *only* metaphorical uses of bodily states can explain the relevant kind of thought, is another matter entirely.

I agree with this point, though it is not central to my account of the tacit. I have a somewhat different reason to question the idea that there are tight links between bodily experience and higher inferential thinking. I am impressed with Luria's studies of peasants and syllogistic reasoning (and not so impressed with the critics, who seem often not to have read the studies carefully). What he found, essentially, was that peasants who were unschooled but highly competent in practical matters could not answer or apparently even follow simple questions involving generalizations from which inferences needed to be made from generalizations that were provided by the researcher to particulars. So why were these peasants unable to respond to Luria's questions—or even understand what he was getting at? Infants "reason" inductively, so in some sense they generalize, and even make probabilistic judgments. The peasants did not lose these innate capacities. The innate capacities simply were irrelevant to their ability to answer the questions. Yet people with just a little schooling were good at answering them.

What this suggests to me is that something else is going on here—something "social." Students, I think, learn by emulating the performances of teachers, by trying to follow what they say and therefore how they reason. The peasants had no such experiences. They wouldn't need many to reason in the way Luria expected them to, but they needed some experiences of this "schooled" kind. They weren't syllogizing directly off of their bodily capacities, in any case.

But this kind of emulationist explanation is not anti-embodiment. Wilson summarizes the situation for sensorimotor imitation thus:

> Consider the special case of mentally simulating something that is *imitatible*—that can be mapped isomorphically onto one's own body. Such stimuli in fact primarily consist of our fellow humans. There are good reasons to believe that this isomorphism provides a special foothold for robust and non-effortful modeling of the behavior of other people … Given that we are a highly social species, the importance of such modeling for purposes of imitating, predicting, or understanding others' behavior is potentially quite profound. (Wilson 2002, 634; italics in the original).

I think this is an excellent clue. "Embodiment" imitation provides a foothold: we model the physical behavior of others, as a starting point in a larger developmental project in which we do a lot more emulation, which is no longer just physical.

The thing left out of the standard embodiment accounts is precisely the fact that we are a "highly social species." There is a disconnect with research on infants, which keeps pushing such skills as detecting intentions to earlier points in development (Choi and Luo 2015). The research shows that our awareness of others is omnipresent from birth and develops rapidly. We pick up on what others are doing: we follow them and come to follow their thought. This, I think, is also what Polanyi was getting at by talking about tacit knowledge in science and science as an apostolic succession, and it is central to the concluding parts of *Understanding the Tacit*, as well the conclusion of my *Explaining the Normative* (2014).

In writing about tacit knowledge I have tried to avoid commitments to particular cognitive science theories. They will come and go—the core phenomena of tacit knowledge, as established by Polanyi, will not. Mirror neurons will perhaps turn out to be a false lead, of no real cognitive significance. There are many skeptics (see Hickok 2014), some of whom are very vociferous indeed. But empathy, and empathy in the form closer to joint attention I have called weak empathy, will survive. So will habituation. One necessarily articulates these issues in terms of the scientific ideas, approaches, and findings of one's time, however, and these are mixed up with projections of what future results will be produced by these approaches. Mirror neurons have something to do with empathy; habituation has something to do with connectionist learning. They are thus grounded in the neuroscientific. Nikkel is more optimistic than I am about classical embodiment, Chomsky's linguistic theories, and Lakoff's and Johnson's ideas about the bodily basis of thought. But these are reasonable differences.

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