Keep the Solution, Broaden the Problem: Commentary on "Knowledge, Self-Regulation, and the Brain–Mind Cycle of Reflection"

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In response to Iran-Nejad's (2000) article ("Knowledge, Self-Regulation, and the Brain–Mind Cycle of Reflection"), I urge him to consider broadening the problem as he defines it. The difficulty psychologists face in reconciling the conscious process of symbol manipulation with the unconscious process of coming to understand is part of a larger problem, I argue: that of body versus mind, perception versus conception. I examine the advantages of recasting Iran-Nejad's problem in this way. High on the list is the fact that the suggested approach connects his work to earlier ground-breaking work by Charles Sanders Peirce and John Dewey.

I endorse Iran-Nejad's (2000, this issue) solution to the problem he poses, although I think the way he defines the problem needs to be broadened. Specifically, I argue that there is merit in subsuming his "tacit versus explicit" knowledge dilemma under a broader rubric — namely that of the enduring problem of "mind versus body" or "mind versus world." As I explain, this broader way of casting the problem would allow Iran-Nejad to address postmodernists as well as information processors.

Iran-Nejad clearly has identified a problem in his piece, entitled "Knowledge, Self-Regulation, and the Brain–Mind Cycle of Reflection," which is vexing to information processors. On the one hand, information processors believe that knowledge is contained in symbols and in the connections between symbols that constitute our language system. Understanding is thus viewed as a product of symbol manipulation. Individuals know when

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they are engaged in the process of symbol manipulation: searching for a syn-
onym to more aptly convey a thought, mentally rehearsing what one is about
to say or has heard others say, stripping away excess verbiage to get to the
main point — all these manipulations are conscious processes for the most
part. And yet, and this is the heart of the dilemma as Iran-Nejad defines it,
none of this manipulation equals understanding.

Iran-Nejad illustrates this problem with a simple comparison. Thus, he
writes, "The statements 'I *know how to elaborate*' and 'I *know how to understand*'
have different effects on people's intuitive judgments of meaningfulness" (p.
70). The fact that we do not know how we understand but we do know when
we understand — the "extraordinary click" referred to by Iran-Nejad — points
to a process that lies beneath that of symbolic manipulation (symbols chasing
symbols). The lack of awareness of how understanding occurs, coupled with
the phenomenological certainty that it does occur, is prima facie evidence
that the process takes place somewhere in addition to, if not other than, the
symbolic or propositional level.

Communicable, propositional cognition might, in fact, be but one mani-
festation of a deeper form of understanding that is closer to the physiological
mechanisms that mediate all learning. Otherwise there would be no basis for
the paradox of knowing that we know absent knowing how we know. The
former may be tantamount to putting our thoughts into words; the latter, the
"how" part, may involve ineffable processes like metaphoric projection that
lie outside the bounds of conscious awareness. Be that as it may, Iran-Nejad
argues that embodied knowledge is the only alternative to the traditional,
conduit view of knowledge. I agree with him totally on this point. The prob-
lem with regarding bodily knowledge as the solution to the tacit versus
explicit issue, however, is that it fails to engage the postmodernists.

Postmodernists claim to have figured out a way to have tacit awareness of
understanding *without* recourse to an embodied knowledge mechanism. They
argue that their language oriented approach to knowledge allows for "tacit"
awareness. Gill (1996), for example, singles out the notion of tacit knowing
as one of the keys to understanding Wittgenstein, the patron saint of post-
modernism. He summarizes Wittgenstein's position as follows: "Tacit knowl-
edge is acquired, not through analysis and argument, but by means of
imitation, empathy, and practice. Thus, it can only be experienced and eval-
uated in the skills and behaviour patterns, the decisions and deeds, which
make up our daily existence" (p. 122).

Postmodernists accomplish the goal of combining symbol manipulation
and tacit awareness by locating both in the external world, the dialogic space
that exists between people. Symbol use, according to postmodernists, is
decidedly *not* the sort of internal, intra-individual process envisioned by the
information processors. Postmodernists buy the first part of the conduit

metaphor, the idea that understanding is symbol use. They strongly object, however, to the notion that understanding emerges from acting *on* symbols. Understanding, postmodernists argue, emerges as we act, in the open, *with* symbols. Wittgenstein writes, "Every sign *by itself* seems *dead. What* gives it life? In use it is alive. Is life breathed into it there? — or is the *use* its life?" (1958, Parag. 432). One understands a word like "perhaps" when one knows and can demonstrate how the term is used. Use is everything; even reality takes a back seat to this concept. Language, according to the postmodernists, is the instrument that creates "reality" to suit human purpose. More needs to be said about this notion.

Because no one way of talking about things suits all purposes, present and future, postmodernists believe that there is room for experimentation and change. Small groups of people within the community try out new ways of talking about things. If the new language seems better suited than the old to meet the community's needs, more and more individuals will pick up on it. The change in language, in effect, creates a new reality, one that did not exist for community members prior to its instantiation in language. Certain ways of talking about the world are judged valid if they serve a purpose from the community's perspective. Defining aberrant behavior as "mental illness" rather than "craziness" has caught on because (a) it appears to correlate with new modes of interacting with aberrant individuals, and (b) members of the community value those new modes. This way of describing the process makes it appear far too rational, however. Wittgenstein insists that this, like most aspects of the "language game," represents tacit rather that explicit knowledge (Gill, 1996). Like Iran-Nejad's individual learners, members of a community know *when* certain moves work but they do not know *why*.

The fact that the postmodernists beat Iran-Nejad to the punch by figuring out a way to combine symbols with tacit knowledge points to the need to broaden the "when but not why understanding occurs" argument. The way to accomplish this goal, I believe, is to incorporate it into a larger, more philosophically grounded set of concerns. Body versus mind, world versus mind, percept versus concept, symbols versus icons or images — there are many ways of characterizing the dichotomy built into this key way of analyzing thought and action. Dewey called one version of this issue, the connection between perception and conception, the "epistemological problem of the age" (1941/1981b, p. 197). He praised Peirce for dealing with this problem in a creative way that surpassed even what Kant was able to do.

As this suggests, one advantage in casting the tacit versus explicit issue in a broader context is that it makes contact with the storied past tradition in philosophy, best exemplified in the work of giants like Kant and Peirce. Both, in their way, attempted to deal with the mind/body, percept/concept issue. Kant's creative solution, in fact, was Peirce's point of departure. Let me

briefly explain. Kant sought to correct the excesses of Descartes' rationalism, arguing that there is an empirical as well as rational aspect to knowledge. The rational aspect, for Kant, consisted of two types of innate structures: the first are a priori intuitions about space and time that govern perception, forming a structure that allows individuals to extract objects and events from what otherwise would remain a diffuse, chaotic perceptual manifold; the second kind of structure, consisting of a priori logical categories, takes the discrete entities of the first stage and relates them analytically or synthetically to form the conceptual entities we call knowledge.

Peirce, writing at the end of the nineteenth century, objected to Kant's assignment of perception and conception to separate stages or phases: "*First* the form of things in space and time," Kant wrote, "*second* the synthetic unity of the array in concepts" (in Falkenstein, 1998, p. 38). Peirce argued that the two were joined as one continuous process (see his *Collected Papers*, 1931–1935, Volumes 1–6). Like Iran-Nejad, Peirce argued that cognition assumes the form, early on, of a kind of "thematic" or "wholistic" intuition. Peirce viewed this process, which he called abductive inference, as primarily metaphoric in nature. One glimpses, through the lens of a metaphor, the stirrings of an idea that can resolve a situation that is vexing or troubling. Order is soon imposed on this highly imaginal input. Objects and events that initially were difficult to reconcile (e.g., a plant needing food but not being able to access it) show signs of coming together under the influence of a potentially powerful idea (e.g., photosynthesis).

According to Peirce, the judgment process that brings closure to the first, intuitive phase of inquiry leads directly to the second or propositional phase. The important point to keep in mind here is that Peirce and Dewey, like Iran-Nejad, see the need early on to connect thought instantiated in language to a more elemental and sensate type of understanding. "Organic and psycho-physical activities with their qualities are conditions which have to come into existence before mind, the presence and operation of ideas, is possible," Dewey wrote (1925/1981a, p. 220). "They supply mind with its footing and connection in nature; they provide mind with their existential stuff." Peirce, twenty-plus years earlier, had paved the way for this still controversial idea: "The elements of every concept enter into logical thought at the gate of perception" (1903/1931–1935, Volume 5, p. 131).[1]

Thus, those who would perpetuate the distinction between mind and body equate the former with the symbolic and abstract, the latter with the imaginal and sensate. Peirce and Dewey and those who have come after like Iran-Nejad

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[1]An interesting bit of evidence for the controversy was scrawled in the margin of a volume of Peirce's works that I checked out of the library. "What a crock," someone had written alongside his statement that ideas enter thought through the gate of perception.

insist that knowledge represents a composite of these two ways of knowing. Dewey describes Peirce's solution as follows:

> While he [Peirce] does not use the following mode of speech it is, I believe, faithful to his position to say that in the course of cosmic or natural evolution, linguistic behavior *super*venes on other more immediate and, so to say, physiological modes of behavior, and that in supervening it also intervenes in the course of the latter, so that through this mediation, regularity, continuity, generality become properties of the course of events, so that they are raised to the plane of reasonableness. (1946/1989, p. 149)

Iran-Nejad thus is heir to the Peirce–Deweyan tradition. He performs a valuable service by extending their original argument well beyond the realm of disciplined inquiry to include processes such as dynamic self-regulation and procedural automaticity. Iran-Nejad's solution to the problem is an expansive one; it would be helpful if he would adopt an equally expansive view about the nature of the problem. What is gained by recasting the problem as one involving mind–body? A great deal, I believe. By defining the problem in a broader way, Iran-Nejad engages the postmodernists as well as the information processors (IP). The former, as I pointed out, have figured out a way to marry symbolic manipulation and tacit knowledge; they thus escape the trap that IP theorists blunder into. Postmodernists have not figured out a way to wed mind and body, however. This is not for lack of effort on their part, as I point out below.

Lakoff and Johnson, in their new book *Philosophy in the Flesh* (1999), purport to offer a postmodern solution to the mind–body problem. What they offer is at best half a solution. Like other postmodernists, Lakoff and Johnson assume that meaning is propositional. They acknowledge, however, that propositional understanding has a nonpropositional, experiential basis. The language we use to describe quantity is a case in point. Quantity is "conflated" with verticality; our normal everyday experience teaches us that pouring more water into a glass makes the level of the water go up. More is up in an embodied sense: "Prices rise, stocks go down." The reason this represents half a solution is that Lakoff and Johnson see embodied knowledge as a resource *for* language — it feeds *into* and enriches our talk. The problem here is that embodied knowledge plays a uni-directional role; once it enters the "prison house" of language (cf., Caputo, 1983), it ceases to connect with the real world.

Rothstein (1999), in a perceptive review of Lakoff and Johnson's book, makes exactly this point. While endorsing the authors' novel idea that bodily ways of knowing are the raw stuff of metaphor, Rothstein suggests an alternative view. We may begin with our bodily experience, he writes, but our metaphors must also engage with the world: "They have to 'fit,'" Rothstein argues. Some resonate and others fall short. "A few," he adds, "go even farther: they might even be true" (p. 25).

Peirce and Dewey and, I think, Iran-Nejad would argue that the existential stuff of understanding does far more than enrich language. It is an integral part of the understanding we carry out into the world in the form of ideas. It must answer to the reality that one confronts there; the world talks back in Peirce's and Dewey's approach and our conceptions are altered and improved as a result. Lakoff and Johnson use the term "embodied realism" to describe their language-oriented approach. Peirce and Dewey are forceful advocates for a more ambitious realism, which Sleeper (1986, p. 3) aptly characterizes as "transactional" in nature. Iran-Nejad is following in the footsteps of these giants.

The work of Peirce, in particular, is enjoying a bit of a renaissance as scholars, seeking alternatives to the stark distinction between modernism and postmodernism, are rediscovering Peirce's turn of the century work. Susan Haack's important recent book, *Manifesto of a Passionate Moderate* (1998), is an excellent example of this genre of work. "Peirce's is the most articulate and serious defense of intellectual integrity I know," she writes (p. 26). Iran-Nejad would do well to consult this body of work as he seeks to push forward with similar innovative ideas about thought and language.

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