

Embodied and Situated Cognition: from Phenomenology to Neuroscience and Artificial Intelligence

THREE “WORLDS” – THREE DIFFERENT KINDS OF “BODIES”

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A fairly well-known but underestimated thesis in philosophy and even more so in the present discussion of “embodiment” in cognitive science is Popper’s (1972) notion of the “three worlds”. The claim is that the three are intimately related but ontologically irreducible: World1: the world of biophysics studied by the natural sciences, World2: the world of consciousness, studied by e.g. phenomenology and World3: the world of culture, studied by e.g. anthropology and linguistics. What has been especially misunderstood is the latter, and Popper has been accused of ascribing to it some sort of Platonic mode of existence. Any such overtones can be rejected by stating that World3 consists of common knowledge (e.g. Itkonen 2003) an important category of which are Searle’s (1995) institutional facts, which exist only because they are known to exist. The relationship between the three worlds can be characterized by a double supervenience/emergence relation: World2 supervenes on/emerges from World1 (the “hard problem” in Consciousness Studies), while World3 supervenes on/emerges from the collective structure of World2, i.e. not on individual minds, but on minds “in a network”. Thus, a language does not go out of existence if a speaker dies or forgets it, but does die unless there are at least two speakers who share their knowledge of it.

Turning to embodiment, we can see that all meaningful applications of the term assume the formula X is embodied in Y, where X in general refers to some “mental” category, while Y refers to something pertaining to the body. While it is often recognized that the term “mental” is quite ambiguous, it is forgotten that the notion of the “body” is similarly subject to considerable polysemy. To my understanding, there are three theoretically interesting senses of it, and thus three types of embodiment. Each one of these, in turn, corresponds to each one of the three worlds: (a) the biological body, (b) the phenomenal body and (c) the “body” of cultural artefacts, including language. (One could claim that the first two senses are literal, while the third is metaphorical). Dividing the conceptual domain in this manner paves the way for avoiding a number of confusions and misunderstood debates. All three notions of embodiment are useful, but they are, of course, far from synonymous, and their interrelations need to be carefully considered. Particularly important is the third, which is so easily forgotten or mistakenly seen as reducible to one of the first, resulting in either physicalism or idealism. In particular, if Y is taken to be “linguistic meaning”, it is impossible to account for it an “embodied theory” if by that is meant one which either attempts to reduce it to biophysics (World1) or individual consciousness (World2). Rather meaning is also, and crucially, “embodied” in sociocultural practices, norms, and artefacts which are “superorganic” to use the term of Kroeber (1917).

Once we have separated the three bodies conceptually, how do we reunite them again? Sine who we are, and whatever in us that is embodied is a result of both biology, phenomenal experience and culture. We can do this either from the perspective of evolution, as suggested by Popper himself, or more close to home from the perspective of development, though without implying any simple notion of recapitulation since the child is an organism endowed with phenomenal experience, and situated within a culture from the start.