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Author: Cuccio, Valentina
Gallese, Vittorio

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Abstract: The nature of concepts has always been a hotly debated topic in both philosophy and psychology and, more recently, also in cognitive neuroscience. Different accounts have been proposed of what concepts are. These accounts reflect deeply different conceptions of how the human mind works. In the last decades, two diametrically opposed theories of human cognition have been discussed and empirically investigated: the Computational Theory of Mind, on the one hand (Fodor 1983 The modularity of mind: an essay on faculty psychology; Pylyshyn 1984 Computation and cognition: toward a foundation for cognitive science), and Embodied Cognition (Barsalou 2008 Annu. Rev. Psychol. 59, 617-645. (doi:10.1146/annurev.psych.59.103006.093639); Gallese & Lakoff 2005 Cogn. Neuropsychol. 22, 455-479 (doi:10.1080/02643290442000310); Shapiro 2011 Embodied cognition), on the other hand. The former proposes that concepts are abstract and amodal symbols in the language of thought, while the latter argues for the embodied nature of concepts that are conceived of as grounded in actions and perception. The embodiment of both concrete and abstract concepts has been challenged by many (e.g. Mahon & Caramazza 2008 J. Physiol. 102, 59-70. (doi:10.1016/j.jphysparis.2008.03.004); Caramazza et al. 2014 Annu. Rev. Neurosci. 37, 1-15. (doi:10.1146/annurev-neuro-071013-013950)). These challenges will be here taken seriously and addressed from a comparative perspective. We will provide a phylogenetic and neurobiologically inspired account of the embodied nature of both abstract and concrete concepts. We will propose that, although differing in certain respect, they both might have a bodily foundation. Commonalities between abstract and concrete concepts will be explained by recurring to the Peircean notions of icon and

abductive inference (CP 2.247). According to Peirce, icons are the kind of signs on which abductive inferences rest (Peirce CS 1931 in *Collected papers of Charles S. Peirce*, Hartshorne C, Weiss P, Burks AW. (eds), 40; Peirce CS 1997 In *The 1903 Harvard lectures on pragmatism* (ed. A. Turrisi)). It will be claimed that the mechanism of Embodied Simulation (Gallese & Sinigaglia 2011 *Trends Cogn. Sci.* 15, 512-519. (doi:10.1016/j.tics.2011.09.003)) can be described as an icon (Cuccio V & Caruana F. 2015 *Il corpo come icona. Abduzione, strumenti ed Embodied Simulation. Versus*, n. 119, 93-103), and it will then be suggested that on these, basic natural signs rest, both phylogenetically and ontogenetically, the capacity to conceptualize.

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