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    Titolo What can we make of theories of embodiment and the role of the human mirror neuron system?

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    Sommario/riassunto In recent years, work surrounding theories of embodiment and the role of the putative mirror neuron system (MNS) in humans has gained considerable attention. If humans have developed a net-work of neurons that fire in response to other beings' actions, as has been shown in macaques, this system could have vast implications for all kinds of cognitive processes unique to humans, such as language, learning, empathy and communication in general. The goal of tapping into and understanding such a system is a fascinating yet challenging one. One form of embodiment - embodied linguistics - suggests that the way we process linguistic information is linked to our physical experience of the concept conveyed by each word. The interaction between these cognitive systems (i.e., language and motor processing) may occur thanks to the firing of neurons making up the MNS. The possible interdependence between different cognitive systems has implications for healthy as well as pathological profiles, and in fact, work in recent years has also explored the role of 'embodiment' and/or the MNS in clinical populations such as stroke, Parkinson's Disease, Alzheimer's Disease, and Autism, among others. Research on embodiment and/or the MNS has been approached with a number of different methodologies, but the results obtained with these different methodologies have not been entirely consistent, generating doubts regarding the theories. The question has been raised as to what this line of inquiry can gain from the types of evidence contributed by

functional neuroimaging methods carried out with healthy volunteers versus behavioral or lesion-symptom mapping methods employed with neurologically-compromised individuals. Of particular interest are the clinical applications of this line of research. If indeed a system exists which reflects a tight link between, for example, the human language and motor systems, then the obvious challenge is to tap into this system to create useful therapies that can provide rehabilitation where damage has occurred. This Research Topic brought together work conducted with healthy and patient populations using several behavioral and imaging techniques, as well as insightful commentaries and opinion pieces. We believe the combined work of the participating authors is an important contribution to this intriguing line of research and an excellent point of reference for future work.