

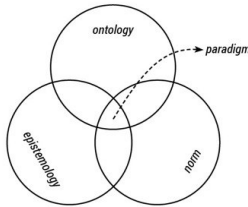
Realist Social Cognition

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Low-level descriptions of interaction dynamics have been canonically approached by cognitive neuroscience through a representation-oriented and inference-based perspective, leading to a stable paradigmatic plateau, that no longer allows further construction of a completely coherent semiotic framework capable of accounting for currently unobserved characteristics of social cognition, which is forcibly situated and mostly occurs in interaction.

Social contexts are saturated with information that remains invisibilized because of the use of mutually incommensurable conceptual metaphors throughout contemporary scientific discursive practices, despite the embodied turn led by 4E Cognition. A new turn toward realist ontology and epistemology is thus rendered as necessary to inform the gaps within cognitive neuroscience and ground its currently unfulfilled interdisciplinarity.



Trending cognitive neuroscience performs low-level descriptions of individual or group interactions by the use of state of the art techniques and methodologies. These observations can be defined as being close to the material niveau of the structure and functioning of our organism as a biological entity. Conscious processes like states of emotion, perception or belief formation –all of which motivate human behavior– transcend the reach of this scope, nonetheless. Thus, the general claims about these epistemic constructs, as a whole, should be more qualified.

For instance, psycholinguistics used to be quite English based and postulated general principles of which later turned to be proven that they were not replicable with other languages. Psychophysical cues in language processing need to be redefined epistemologically from a new materialistic perspective, in order to account for group learning and social transmission of knowledge.

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Meaning ~ Information

„ (...) representing is not some kind of register or data structure that we use, but something we do. “

Romain Brette, 2019

- Meaning has been established pervasively as a central concept throughout the disciplines that were involved in the cognitive revolution. The collaboration between psychology, linguistics, neuroscience, computer science, anthropology, and philosophy yielded a new metalanguage, wherein these scientific enterprises immersed to the point of not noticing its metaphorical nature. To this day, artificial intelligence, digital humanities, and even neurobotics still rely on the symbolic-computational paradigm, which was born under the umbrella of information processing theory. The assumption of this metaphor is that representation is constituted as some form of encoding, that is, as correspondences between mental states of an agent and actual things in the world. By intrinsically restricting research to issues of manipulation and transformation of already constituted carriers of representational content, meaning was replaced with data and thus the fundamental problem of representation ceased to be addressed (i.e. the interactive emergence and function of representational content). So, where does meaning come from?
- This point of view, used as a model in linguistic research, has been widely spread, generating as a by-product its usage as a knowledge model of the human body in a generalized fashion (e.g., sensory information considered as input data), regarding ontogenetic development and interaction. Physiology that supports language processing in human beings resists itself to be reduced to the notion of a mere processor; this is a major challenge for the development of artificial intelligence, deep learning and brain-to-computer interfaces. The canonic focus of symbolism, in its analysis, on the processor in regards to its structure –assuming entities are alike at an internal level–, has downplayed the phenomenal content created by the relation of an entity with their rather external counterpart.
- Completely detached and exclusively extrospective perspectives have been rendered banal since the emergence of situated and intersubjective based theories, such as 4E-Cognition (Newen 2016), particularly regarding sensorimotor coupling with sociocultural contexts, which are saturated with unobserved characteristics of interaction, that need to be accounted for within a mechanistic framework (De Jaeger and Di Paolo, 2012; Bolas-Ibano and Parada 2020).

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Being-in-the-world is meaning-in-the-world

“ (...) thinking, however abstract, originates in an embodied subjectivity, at once overdetermined and permeable to contingent events (...).”

Teresa De Lauretis, 2004

- A promising avenue –within research on the relevance of both sensory-motor information (Wilson 2002; Gallese 2007; Shapiro 2011) and the experiential context of their process of perception– has been opened by the corpus of theories of embodied, embedded, extended and enactive cognition (Varela et al. 2017), which challenged the assumption that nervous systems evolved for abstract thought (in terms of mere throughput processing) and rather did for the adaptive control of action (Semin and Smith 2007); therefore, conceptual structure ought to be grounded in an experiential foundation specific to the sensory-motor system. However, as Elias Smith (2003) points out, research insight is still intertwined with metaphors specific for researchers' methodologies at the best, and I would argue that, at the worst, it usually remains at the level of object-oriented ontologies. The central issue with the purely symbolic perspective has thus not been resolved through the embodied turn.
- Social cognition demands the exploration of concepts like interiority and intersubjectivity, which have been held in distance from the possibility of being studied in an interactive way and primarily regarded as a mere contextual descriptors for individual mechanisms. Indeed, Frith (2003) has expressed that “mainly third-person aspects of social-cognitive processes have been considered” so far, even though, as Krakauer et al. (2017) have pointed out: “many have argued for the importance of second-person, participatory capabilities.” They have gone as far as to claim that “Insofar as the goal of a neuroscience research question is to explain some behaviour, be it a phenomenon from vision, communication, motor control, navigation, language, memory, or decision making, the behavioural research must be considered, for the most part, epistemologically prior.”

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Contingent Cognitive Constellations

“(...) the role of interactive and individual elements in social cognition must be systematically re-evaluated(...).”

“(...) social cognition may occur in the absence of interaction.”

De Jaeger et al. (2010)

- To probe the access to others' intentions requires escaping an essentialist and universalizing model of theory of mind. Linguists hold that a child cannot proficiently learn to speak without this capacity (Robbins and Rumsey 2008). Pauen (2012) suggests that knowing this “perspectivalness” directly enhances the ability to take the second-person perspective, which would essentially allow for epistemic replication to take place. Goldman's (2006) simulation theory had already posited as the central problem of imagining another mind's subjective experience the actual capacity for proper categorization of contextual information.
- The epistemic question of how knowledge is being generated and how this is influencing the research results thus arises. Leide and Dawghey (2012) propose a holistic approach to improve onto this practice: by further strengthening the way we examine the relationship between recollection of objective data on changes in brain activity and the engagement of culture and individuals simultaneously. So called neuroanthropology places the brain at the center of discussions about human nature, following that “the nervous system is our most cultural organ.” It emphasizes the interaction between the sociocultural milieu and its contingent sensory environment at the material level (i.e., in terms of brain percepts). Anthropology has long made the effort to posit the exploration of Self and Otherness within the scope of the cognitive sciences. Likewise, topics such as the representational requirements of cognition in their relation to the dynamic, circular and distributed causal structure of the brain have not been studied through second-person perspective or ethnographic methods yet, but have been limited to be described by the use of questionnaires at the most.
- Within a world of causality, Mead (1962) concisely referred to affordances (Gibson 1977) by commenting on their potentiality: “The chair invites us to sit down.” Thus, they contribute to the emergence of meaning, since the response to the aforementioned invitation does not depend on cognitive representations alone but they come into play “through particular actions and projects of the subjective selves of the sentient entities” (Keane 2013). These are central concepts of current robotics, artificial intelligence and information architecture upon which the ethnographic method has to shed some light; this possibility needs to be acknowledged for scientific advancement.

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