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INTRODUCTION: MANY FACES OF REPRESENTATIONALISM¹

Representation and Cognitive Semiotics

The subject matter of all texts comprising this volume is a category of representation. Although it is not always explicit, the reference to the notion of representation enables to bring together shared characteristics of research into consciousness, enhancement of cognitive processes, metaphor and modes of coding of information in the mind.

The category of representation brings research closer to semiotics. Representation is a basic theoretical category in cognitive science and in semiotics since the approaches of both relate to: “something that stands in for something else under a determined aspect” which corresponds to the definition of sign by Charles Sanders Peirce. The convergence of both sciences is possible due to the formation of a new, common field of research called “cognitive semiotics” whose objective is to integrate perspectives, methods and insight from cognitive science into the broader context of cognitive and neurobiological processes.

Cognitive semiotics study mechanisms and processes of meaning-making in all domains: the natural, the social, the cultural, in language and other sign vehicles, especially in perception, and in action. In classical cognitive science the notions of sign, language and mind are linked with studies on representation that is why studies on cognitive semiotics aim to incorporate the results of other sciences, using methods ranging from conceptual and textual analysis as well as experimental and ethnographic investigations (e.g., Daddesio, 1994; Zlatev, 2012; Konderak, 2013).

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Cognitive semiotics is the trans-disciplinary study of language, communication, media and mind. In cognitive semiotics, both phenomenological analysis and empirical methods are used. The goal is to produce a new approach to interrelations between different codes of communication such as language, gestures and pictures.

All states of mind, if they have content or are of informative character are representational states (representations in short) and refer to something else other than themselves. Such representations include neural states of digital and analogue character, of linguistic and non-linguistic (perceptual) character, of index and metaphorical character.

Representation and Knowing/Knowledge

Knowledge is a type of representation and is a product of cognitive skills of a subject. Not always is an individual conscious of processes generating this particular type of representation.

There is a problem of control over arising representations or knowledge when the mind of an individual is enhanced by artifacts. Do the beliefs forming in such a way meet the criteria required for knowledge? Not every representation acquires the state of knowledge (it is the case with sensual representations). Representations always should be produced by cognitive states of an individual. In the case of brain-computer interface systems, representations can form artificially circumventing natural cognitive processes.

There are problems of a loss of identity (“former self”) through the interface with a cognitive artifact, as well as a loss of control over decisions of the hybrid cognitive system and its results. It is an effect of interactions between brain structures and forming representations linked to the actions of an individual and having impact on their cognitive and emotional dispositions, mental abilities and personal inclinations. However, the epistemological status of hybrid cognitive systems may be assessed, it can be accepted that their cognitive results can be cognitively complete.

Representation and Consciousness

Consciousness can be concisely characterised as an individualised state of information which is a functional representation. The notion of information is superior to the notion of consciousness in the sense that all states of consciousness are states of information. States of consciousness can be treated as a subgroup of information states. Since it is difficult to discuss information without a generally understood reference, it can be assumed that conscious states of information are forms of representation and they represent functions and actions. Referentiality is understood broadly and—as opposed to intentionality—it can be linked to early stages of information processing in the brain. Such information-bearing-states of consciousness are based on the assumption that for a system-organism to be aware of something, it has to somehow identify this “something” and represent it as “this something”. Information has to be understood naturalis-

tically as a state of a specific system-organism that can be differentiated from other functional states of representation of this system. Information held by a given organism is unique, as its form, meaning and functions, which can be performed in actions, have been formed by many unique developmental factors (individual and species-related) as well as environmental factors. Information states of a particular organism undergo individuation which leads to the creation of first-person (subjective) perspective. Therefore, information as a form of functional representation becomes virtually unique at a phenotype level.

Representation and Indexical “I”

The use of the notions of representation or information in semantic analyses of indexical “I” allows for making clearer the distinction between the user and the producer of linguistic tokens of the so-called pure indexicals, especially the tokens of “I”. Both concepts—the user and the producer—have an intentional character which links them to the contents of mental states understood as representations. Semantics of these expressions is connected with philosophy of mind, and also—in naturalised version—with cognitive science and through this with the theory of representation. This relationship is not always visible as A. J. Jakobson observes: “I claim that philosophy of mind has woefully neglected a sense of ‘representation’ that is present in neuroscience and that is important” (2003, p. 190). Therefore, in his opinion for research in cognitive science, and in particular in neuroscience, it would be more appropriate to use “representation” in the meaning of “token-realization”. Token-representation is in contrast to intentional-representation. This differentiation is significant for the analysis of texts and implies the possibility to naturalise representation in such an interpretation. Token-realizations are actual states of reality on biological and physical levels (without the need to be reduced to them), because as Jakobson notes: “Token-realizations are not about [...]; they are of their types in the sense of being instances of their type [...]” (2003, p. 191).

Representation and the Organization of Information

The format of mental representation—the external or internal vehicle of representation—is the way information is organized in the mind. Differences between formats of representations are understood in terms of differences in information processing. The type of vehicle of representation is connected with the proper mechanism of how iconic or discursive information is processed in the mind. These mechanisms also depend on the modality of representation. Another difference between the formats of representations concerns their predictive functions. The format of representation includes problems of representational primitives and the rules of information processing.

Representation and Metaphor

Metaphorical expressions can be understood as linguistic representations based on analogies generating metonymic series which reflect associations founded on codes, cultural contexts and subjective experiences. These metaphorical representations are different for both the interpreter and the creator of the metaphorical text. To search for the foundations of a metaphor it is necessary to focus on such methods of analysis which are proper to use for those who embody the metaphor in a text and for the interpreter. Perceiving a metaphor as a type of representation allows up to explain how a metaphor is generated and define methods for its analysis. Such an approach to metaphor opens up new facets of understanding and studying the phenomenon of metaphorical representation in language.

Representationalism

Generally, most of the issues presented in texts relate to the idea of representationalism. And even though this notion and its theoretical grounds are rarely mentioned in the texts, all the problems tackled can be placed within the grounds of representationalism.

Representationalism has been and maybe still is the most important paradigm in the research into mind and cognitive processes in both philosophy and cognitive science. However, it assumes that cognition is of representational character, the phenomenon of consciousness is the chief obstacle to representationalism since it is difficult to explain consciousness in representational terms (save the state of self-consciousness).

On the grounds of scientific research, and not only philosophical inquiry, representation still is not a widely accepted view on what it means for a cognitive system to represent something. However, “[T]he lack of a theoretical foundation and definition of the notion has not hindered actual research” (Vilarroya, 2017, p. 1).

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