Special Theme of the Issue. Neurocognitive Aspects of Language Function and Use

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This special issue brings together researchers who, in their different theoretical and methodological ways, address the same general question: How is language related to thought? Arguably, this question continues to underscore one of the most promising yet most difficult endeavors in cognitive science — trying to understand the complex brain mechanisms and the behavioral correlates of the human ability to produce and understand language. We offer you a collection of ten papers widely ranging in their theoretical focus and methodology. This heterogeneity, however, is intended as there is still very little theoretical exchange between different views and different methods when it comes to studying the cognitive and the neuroanatomical underpinnings of language function and use. In part, this is due to the interdisciplinary nature of the question itself. Our special issue is an attempt to bridge this gap by providing an interdisciplinary forum for linguists, psychologists, and neuroscientists to be able to offer each other their unique knowledge and to discuss their evidence in the context of other disciplines' views and traditions.

The contributions in this special issue can be best clustered around the general methodology used by the authors. A number of presented reports use behavioral methods. The paper by Kibrik and Fedorova is a rare attempt to go further in studying language in arguably the most ecologically valid context — as a complex communication system integrating information from several linguistic and non-linguistic channels. Martin-Luengo and Luna use a very elegant design that combines methodological traditions common in memory research and those used in the research on number processing to investigate the role of the well-known spatial-numerical component, SNARC, in memory recall and judgements. Pokhoday and Myachykov offer a thorough review of research focusing on the role of the attentional system in our ability to produce and understand syntactically diverse sentences. Finally, two papers in this set investigate language processing in different populations. Shcherbakova and Nikiforova report new evidence about metaphor understanding in healthy adults, while the review by Ulanov and colleagues provides a virtual "bridge"

between behavioral and neuroimaging traditions by summarizing literature on language neurorehabilitation in the post-stroke aphasia.

The second subset of reports in this collection use neuroimaging methodology in their investigations. Bermúdez-Margaretto and colleagues used electroencephalography (EEG) in their analysis of the human brain's electrophysiological activity during novel word learning. The contribution by Chernyshev et al is a prime example of a different paradigm used to a similar end — magnetoencephalography. This paper investigates how the brain acquires new word meanings via the auditory-motor associations. The report by Chemerisova and colleagues addresses the question of using EEG patterns as correlates of individual cognitive states and mental operations — linguistic and arithmetical. These provide the essential neurophysiological component for the topic of this issue, stressing the need to combine and merge different techniques and approaches — including behavioral, clinical and neuroscientific ones — in addressing the multimodal question of interfaces between language, thought and general cognition.

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