

Beyond Arbitrariness? Form-meaning consistency in language processing

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Arbitrariness is commonly considered among the foundational properties of language, whereby there is in principle no connection between sounds (or letters) that make up a word and its meaning. However, in recent years, the literature on language processing and representation provided many examples of systematicity in the relationship between symbol and reference, thus posing a challenge to arbitrariness. While one aspect of this scientific investigation focused on examining the systematic relationship between form and meaning within the lexicon, another facet delved into exploring how readers identify and exploit statistical regularities present in natural language. An example of systematicity is linguistic morphology, that can be described in more general terms as an instance of form-meaning consistency. It is within this framework that we developed a measure of Orthography-Semantic Consistency (OSC) to capture, in quantitative terms, the relationship between word form and word meaning. In this talk, I will provide an overview of the development of OSC and its various iterations. I will also discuss a series of experiments showing that individuals rely on form-meaning consistencies when reading words, whether in isolation or within sentence context. Furthermore, I will show that in both orthographic and phonological form are exploited to access meaning, albeit with a different time-course. Finally, I will circle back to studies on morphological processing showing how form-meaning consistency can explain contrasting effects reported in the literature, and I will discuss the relationship between form-meaning mapping, morphological representations, and linguistic experience.



Simona Amenta works at the University of Milano-Bicocca, Italy. Her main line of research is aimed at quantifying and modelling the relationship between word form and conceptual representation, adopting a multidisciplinary approach that brings together theories and methods from experimental psychology, cognitive linguistics, and computational modelling. She developed this line of research during a previous post-doc at the university of Milano-Bicocca, and later while working at Ghent University (Belgium) in the frame of a FWO grant aimed at exploring the dynamic interplay between within-word predictive mechanisms, which leverage form-meaning consistency to predict meaning activation, and between-words predictive mechanisms, focusing on word surprisal, within sentence contexts. More recently, she also developed an interest for the role of grounded information in the formation of concepts. While working at the Centre for Mind/Brain Sciences at the University of Trento, she started studying perceptual representation associated with words in individuals with perceptual impairments.