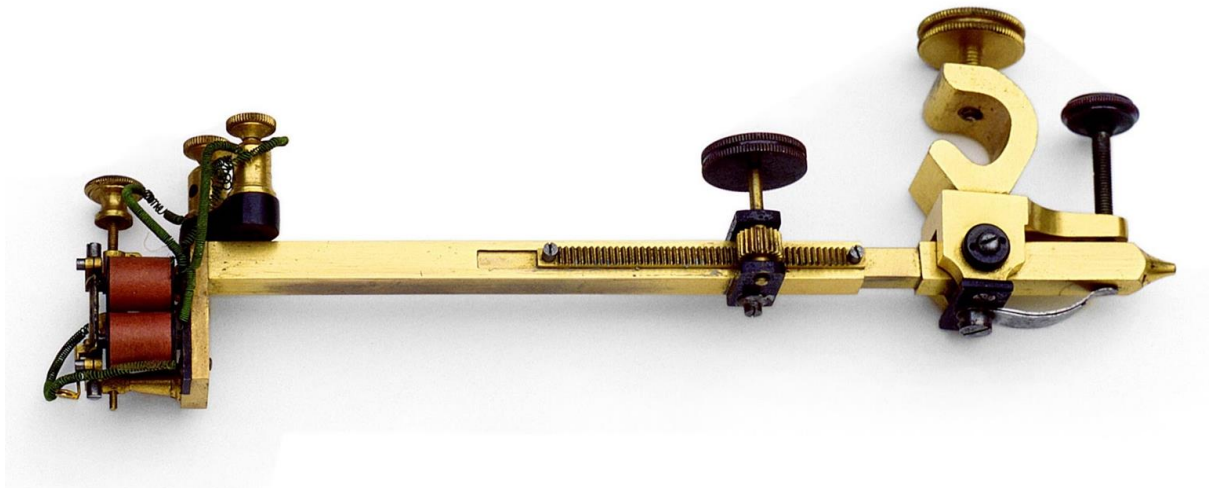XXIX SCIENTIFIC CONFERENCE

EMPIRICAL STUDIES IN PSYCHOLOGY

MARCH 31 – APRIL 2, 2023
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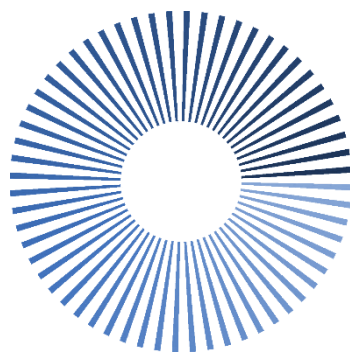
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BELGRADE, 2023

ESTIMATING THE NUMBER OF SENSES AND SENSE PROBABILITY DISTRIBUTION FOR SERBIAN POLYSEMOUS NOUNS, ADJECTIVES, AND VERBS

Ksenija Mišić[1] | *ksenija.misic@f.bg.ac.rs*
Sara Anđelić[2]
Lenka Ilić[2]
Dajana Osmani[2]
Milica Manojlović[2]
Laboratory for Experimental Psychology, Department of Psychology, Faculty of Philosophy, University of Belgrade
Laboratory for Experimental Psychology, Faculty of Philosophy, University of Belgrade

Previous findings revealed that number of senses and sense probabilities expressed as entropy predicted processing of polysemous words (Filipović Đurđević & Kostić, 2021; Mišić & Filipović Đurđević, 2022). However, that had previously only been demonstrated for nouns. Part of speech was not commonly considered in the lexical ambiguity literature, neither as theoretical standpoint nor as methodological control (Eddington & Tokowicz, 2015). This study plans to expand the polysemy research to adjectives and verbs, and to compare the effects. We estimated the number of senses (NoS) and the distribution of sense probabilities for 308 Serbian nouns, adjectives, and verbs, and then tested the effects of NoS, entropy (H), and redundancy (T) on processing of polysemous words. Estimation of H and NoS was done through a sense production task, where participants listed all senses of a word that they could remember. Then, words were split across a group of coders who classified the listed senses in two ways. First, senses were classified into categories formed according to Matica Srpska's Dictionary of Serbian language (2011) word senses. Then coders went through the remaining uncategorised senses and added categories not present in the dictionary. Additional two coders classified senses on a subsample of words partially overlapping with words of each of the main coders to compare estimations. Correlations between main coders and control coders varied from .004 to .971 (mean *r* = .69, *SD* = .23; all *ps* < .05). Using dictionary categories revealed to be a good strategy when senses are classified by multiple coders, since correlations between coder estimations were lower for measures calculated when additional categories were introduced (dictionary: mean *r* = .78, *SD* = .24; additional categories: mean *r* = .59, *SD* = .17). This suggests that large-scale categorisations should rely on predefined categories or at least be guided by them. Measures developed through this categorisation (NoS, H, T) were then used to predict RTs for three word classes. Our goal was to test whether these measures effects differ in verbs and adjectives, compared to nouns. Preliminary results of linear mixed-effects modelling revealed no interaction between NoS/H and word class, however, revealed NoS (*b* = -.012, *S.E.* = .003, *df* = 287.81, *t* = -3.62, *p* = .000) effect across all classes and no H or T effects. We concluded that our NoS estimations did describe polysemous words representations, whereas sense probabilities were not adequately captured by our categorization.

Keywords: polysemy, entropy, word class, number of senses, sense probability

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