

## Semantic effects in morphological priming: A cross-modal study of Hebrew

*Thursday, June 22, 2017 11:30 AM (20 minutes)*

Morphological priming effects are often interpreted as evidence that complex words are represented in terms of their constituent structure (Marslen-Wilson et al., 1994). Alternatively, Connectionist approaches attribute these priming effects to phonological and semantic overlap, without resorting to structured representations (Gonnerman et al., 2007). Evidence for the role of morphological structure in lexical organization comes from studies of Semitic languages, in which robust root-priming effects are obtained in the absence of semantic relatedness (Boudelaa & Marslen-Wilson, 2015). In the present study, we hypothesized that 'pure' morphological effects in Semitic are more restricted than previously thought, in that they would emerge only for productively computed, structured stems.

We conducted a cross-modal priming lexical decision experiment with 30 Hebrew native speakers, testing (i) whether verbs from a productive class ('Piel') and an unproductive class ('Paal') elicited root-priming effects (whether they facilitated the recognition of targets sharing a root, relatively to an unrelated word: /lexalek/-HTXLK, /laxlok/-HTXLK), and (ii) whether morphological priming effects were modulated by the degree of semantic relatedness between primes and targets. The results revealed significant root-priming effects for 'Piel' ( $t=2.84$ ) and 'Paal' ( $t=3.08$ ). However, verb class interacted with semantic relatedness ( $t=2.31$ ), with larger semantic overlap yielding faster target recognition following 'Paal' ( $t=2.26$ ), but not 'Piel' primes ( $t=0.64$ ).

We propose that stems of unproductive Hebrew classes ('Paal') are stored as wholes leading to semantically mediated root priming. In contrast, stems of productive classes ('Piel') constitute structured representations and activate their roots directly. Our results challenge accounts in which all morphological effects in Semitic are independent of semantic relatedness, as well as accounts that dispense with structured representations altogether. Instead, they support a dual-morphology system in which constituent structure is closely aligned with productivity.

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**Session Classification:** Contributed papers 2

**Track Classification:** Freely Contributed Paper