Must analysis of meaning follow analysis of form? A time course analysis

Many models of word recognition assume that processing proceeds sequentially from analysis of form to analysis of meaning. In the context of morphological processing, this implies that morphemes are processed as units of form prior to any influence of their meanings. Some interpret the apparent absence of differences in recognition latencies to targets (SNEAK) in prime-target pairs that are similar in form and semantics (sneaky-SNEAK) and in prime-target pairs that are similar in form but not semantics (sneaker-SNEAK) as consistent with this claim. I examine the time course over which degree of semantic similarity between morphologically structured primes and their targets influences recognition. I use the forward masked priming variant of the lexical decision paradigm, when the same targets appear after semantically similar and dissimilar primes across a range of SOAs (34–100 ms). Semantic effects appear as early as a stimulus onset asynchrony (SOA) of 48 ms but depend, in part, on properties of the target. Results limit the scope of form-then-semantics models of recognition and demonstrate that semantics influences even the very early stages of recognition.