When visual and auditory processing diverge: evidence from Maltese

While relatively little work has lexical retrieval in Maltese, the research that has been carried out (Twist 2006, Galea 2011, Ussishkin et al. in prep) converges on models of the mental lexicon in which the consonantal root plays a central role in the recognition of Semitic words in Maltese. At the same time, the role of word patterns is less clear. Twist (2006) reports no effect of pattern priming in visual word recognition, and Ussishkin et al. (in prep) come to similar conclusions for auditory processing. Galea (2011), though, reports facilitation effects for word pattern priming in visual word recognition. In this paper, we report on the different direction of priming effects by contrasting results from Galea's (2011) visual study with an auditory replication of Galea (2011) by examining masked priming in two lexical decision tasks. In both studies, primes belonged to one of four priming conditions in which primes and targets shared (1) identical vowels (e.g., *tfajjel-nqaleb*), (2) identical prosodic structure (e.g., *nasab-giref*), (3) identical word patterns (e.g., *tferrex-tkellem*), or were in a (4) control condition (e.g., *xiref-tellaq*). While Galea's (2011) visual study finds a *facilitatory priming effect* for conditions (1), (2), and (3), the auditory study reveals an *inhibitory effect* in conditions (1) and (2), supporting models of spoken word recognition in which phonological neighbors compete at early stages of speech processing (e.g., the Neighborhood Activation Model; Luce and Pisoni 1998). Under this model, inhibition in the auditory task reveals that words sharing vowels belong to the same phonological neighborhood, as do words sharing prosodic structure. If activation of neighbors impedes word recognition as predicted by the model. these results are not surprising. Finally, the different direction of effects supports a strong distinction between models for visual word recognition vs. models for spoken word recognition.