

Production and Perception of Maltese root consonants

Maltese, as an originally Semitic language, uses verbs based on tri-consonantal roots. In this talk, I will focus on two challenges these provide in speech production and perception. First, the three consonants are in sequence in the present tense plural leading to articulatory difficult clusters (e.g., *k-t-b*, Engl., *to write*, *jiktbu*, Engl., *they write*), and secondly, the middle root consonant is geminated to express a causative (e.g., *w-q-f*, Engl., *to stop*, *waqaf quddiem il-hanut*, Engl., *he stopped in front of the store*, *waqqaf il-karrozza*, *he stopped the car*). Such forms were elicited in a sentence-guessing task with a picture prime (to avoid reading in a production task) and analysed using forced alignment. The results showed that root consonants are quite resilient against reduction/deletion, and even leading to vowel transpositions, putatively to prevent reduction (*se jibdlu* → *sejbidlu*, Engl., *they will change*). For the singleton-geminate distinction, the results show that, next to duration, especially laryngeals geminates have additional cues that cannot be easily explained as a consequence of the increased prosodic weight of geminates. Perception experiments show that listeners strongly rely on these cues. This provides additional evidence that phonological features are unlikely to be involved in prelexical speech processing (cf. Mitterer, Kim, Cho, 2016; Reinisch & Mitterer, 2016), because the realization of [+LONG] depends on place of articulation. Finally, I will present data that the singleton-geminate distinction is rate-dependent in both perception and production, contrasting with recent views that rate-dependencies may not be pervasive in speech processing.