
Pluralization in the Grammar of Native Speakers: Phonotactics Determines Singular-Plural Mapping in Maltese

Jessica Nieder
*Heinrich-Heine-Universität
Düsseldorf*
nieder@phil.hhu.de

Ruben van de Vijver
*Heinrich-Heine-Universität
Düsseldorf*
Ruben.Vijver@hhu.de

We investigate the formation of sound and broken plurals in Maltese, a Semitic language with a complex and variable plural system (cf. Schembri, 2012). The complexity raises the question about the knowledge of native speakers regarding the correspondence between singular and plural forms.

We hypothesized that the phonotactics of the singular determines the shape of the plural. We performed a production study in which Maltese speakers had to produce plurals for nonce singulars, created on the basis of real nouns with sound plurals, broken plurals and with both plural forms. Indeed, participants produced significantly more sound plural forms for nonces based on sound plurals and significantly more broken plurals for nonces based on broken plurals, supporting our hypothesis that the noun's phonotactics determines the shape of the plural.

We furthermore predicted the plural category by means of the naive discriminative learner (NDL, Baayen et al., 2011), a cognitive two-layer network trained on singular-plural pairs with different cue-to-outcome structures and compared NDL's classification with that of the participants. Doing so, we were able to show that different plural categories are based on different phonotactics of the singular.

References: • Baayen, R. H., Milin, P., Đurđević, D. F., Hendrix, P., and Marelli, M. (2011): An amorphous model for morphological processing in visual comprehension based on naive discriminative learning. *Psychological Review*, 118(3):438–481.
• Schembri, T. (2012). The Broken Plural in Maltese: A Description. II - Lingwa Tagħna. Univ.-Verl. Brockmeyer.