Measuring morphosyntactic complexity across languages. Two case studies of grammatical gender

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Abstract

This paper addresses how morphosyntactic complexity can be explored crosslinguistically by taking grammatical gender as a case in point, and based on two case studies.

Case study 1 proposes a complexity metric for grammatical gender and uses this metric to measure the absolute complexity of grammatical gender in 84 African languages. The metric consists of six features. Three features ("Number of gender values," "Nature of assignment rules," "Number of indexation (agreement) targets") are based on Audring (2014). The remaining three features ("Cumulative exponence of gender and number," "Manipulation of gender assignment triggered by number/countability," "Manipulation of gender assignment triggered by size") are my own. Following a method designed by Parkvall (2008), possible complexity scores range from 0 to 1. The results show that 64 out of 84 languages have Gender Complexity Scores (GCSs) between 1 (e.g., Swahili, Bantu) and 0.5 (e.g., Beja, Cushitic). GCSs below 0.5 are found in the remaining 19 languages, with the lowest GCS, 0.08, going to Mwaghavul (Chadic). The results suggest that, in African languages, low levels of complexity are not commonly associated with gender. In addition, closely related languages tend to have the same or similar GCSs. Outliers are rare and can be explained as a result of contact phenomena. This is, for instance, the case of Bila (Bantu), which has a GCS of 0.22, much lower than its relatives (e.g., Swahili). Bila is spoken in the northern-most corner of the Bantu speaking area, surrounded by non-Bantu languages (Lojenga 2003).

Case study 2, currently ongoing, explores in greater detail the role of language contact as a trigger of simplification/complexification, by measuring differences in the absolute complexity of gender between closely related languages. The sample consists of 10 pairs of closely related languages selected from the five world's macro-areas (Dryer 1989). Each pair consists of two languages (e.g., Selee and Ewe) or one language and a set of close relatives (e.g., Standard Swedish and Northern Swedish dialects). The pairs differ in type of gender system (sex-based/non-sex-based gender) and type of innovation ("emergence vs. lack of gender" and "loss/reduction vs. conservation of gender"). New features are added to the metric used in Case study 1 (e.g., overt coding of gender on nouns, allomorphy in gender marking).

The paper seeks to contribute to the debate on morphological complexity by providing tools for the empirical investigation of morphosyntactic complexity in the domain of gender, and suggesting new methods to assess the role of language contact as a trigger of simplification/complexification. Moreover, the paper discusses relevant theoretical matters on what counts as morphological complexity. For instance, prior to Case study 1, relationships between cumulative exponence of gender and number and presence of gender syncretism in the context of number were scrutinized. The analysis revealed that, in the simple languages, the presence of syncretism presupposes cumulative exponence (see Carstairs 1987; Carstairs and Stemberger 1988 for similar results on number and case). Syncretism was thus not included as a feature of the metric (see also discussion in Dahl 2004: 188).

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