

Processing Spanish Gender in a Usage-based Model With Special Reference to Dual-gendered Nouns

In an experiment, Spanish speakers assigned gender to nouns. Some nouns had biological referents. Others had a mismatch between their gender and their final phones (e.g. *problema*). Nouns with biological referents and nouns with matching gender and phonology were responded to faster suggesting that gender does not depend solely on a noun's gender. Gender was also assigned to dual-gendered nouns, which are feminine nouns that take the masculine article *el* (e.g. *agua*). Most participants assigned them masculine gender.

Dual-gendered nouns are often preceded by masculine modifiers which is due to analogy to *el*. The idea is explored that the gender of *el*, along with all modifiers a noun has been experienced with, explains gender assignment. Computational simulations were carried out to test this using exemplar, naive Bayes, and decision tree algorithms. They made accurate predictions without referencing the noun's gender. In dual-gendered nouns, a shift towards preposed masculine modifiers. A simulation predicted the gender of bare dual-gendered nouns which mirrored the masculine gender the experimental participants provided. These results suggest a usage-based model in which a noun's gender is determined by the modifiers it has been experienced with.