

Exploring Linguistic Variability: MaxEnt Modeling of Yer Alternations in Polish

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Keywords: Polish phonology, yers, vowel-zero alternation, MaxEnt Grammar, corpus linguistics

This presentation introduces a novel approach to vowel-zero alternations in Polish, commonly referred to as yers in phonological literature. Although the vowel alternations manifest in various positions, this presentation will predominantly concentrate on the alternations occurring within non-monosyllabic nouns, as exemplified in the following cases:

- koper (nom. sing. 'dill') - kopru (gen. sing. 'dill')
- kufel (nom. sing. 'beer mug') - kufla (gen. sing. 'beer mug').

Two primary lines of analysis have emerged in the theoretical discourse surrounding yers. The first line of inquiry, as discussed in Gussmann (1980) and Rubach (1986, 2016) posits that yers are distinct from full vowels and should be designated as exceptional segments in the Underlying Representation. The second line of thought, as explored in Gorecka (1988), Czaykowska-Higgins (1988), and Jarosz (2005), delves into the role of syllable structure in the realization of yers and contends that there is no essential distinction between yers and full vowels.

However, these existing theoretical frameworks fail to account for certain critical aspects of the phenomenon. While many words consistently exhibit alternations, Polish speakers sometimes interchange different forms of the same words. For instance, words like "karczma" (meaning 'inn') can be inflected as both "karczem" or "karczm" in the genitive plural. This variability also extends to loanwords, as exemplified by "falafel," which can manifest two possible genitive singular versions: "falafela" or "falafła."

In light of these challenges in generalizing yers and their representation, this presentation offers an alternative perspective, drawing attention to these complexities and aiming to provide a more holistic understanding of the underlying principles governing yers. This presentation seeks to highlight this often overlooked aspect of phonological research and its relevance in understanding the dynamic nature of language.

To enhance the understanding of this phonological process, the study implements the Maximum Entropy (MaxEnt) Grammar framework, a sophisticated probabilistic approach. MaxEnt, with its roots in statistical physics and information theory, offers a more intricate and flexible representation of linguistic patterns. This research utilizes the MaxEnt Grammar tool developed by Hayes, Wilson, and George (2009), applying it to analyze corpus data from the National Corpus of Polish. The data-driven approach of MaxEnt allows for the incorporation of both traditional phonological constraints and new insights derived from the corpus data. This integration results in a nuanced model that not only challenges traditional categorical interpretations but also aligns more closely with actual language usage as evidenced by native speakers' preferences.

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