

## **How English diphthongs are pronounced by Polish learners**

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The paper focuses on British English diphthong production by Polish learners of British English and its analysis in Natural Phonology (Donegan and Stampe 1979, Donegan 2001, Dressler 1985, Dziubalska-Kořaczyk 1995, 2002) and Optimality Theory (Prince and Smolensky 2004). The research question is what phonological processes Polish speakers use when producing English diphthongs and which processes they should acquire.

On the basis of the comparison of Polish and English phonological systems it was hypothesized that Polish learners of English have difficulties with vocalic quality, timing relations within diphthongs, diphthong duration, glottal stop insertion, and the degree of nasalization.

In order to test the hypothesis a phonetic analysis of a diphthong corpus produced by 20 Polish learners of English was performed. Eight British English diphthongs /eɪ, aɪ, ɔɪ, əʊ, aʊ, ɪə, eə, ʊə/ were read in real words embedded in sentences, in twelve conditioning contexts: word-initial, word-final before voiced and voiceless obstruents, before a nasal consonant, and before a nasal consonant followed by a fricative, and each of these conditions was tested in a stressed and unstressed position.

The main argument of the thesis is that English diphthong production is based on Polish categories, and is predominantly transformed by processes known to speakers from their mother tongue (vocalic quality, final obstruent devoicing, glottal stop insertion, nasalization, and nasal vocalization before fricatives), to a lesser extent by universal processes (differentiating duration depending on the context), and to the least extent by second language processes (approximating vocalic quality, especially schwa, and no initial glottal stop insertion).

The paper proposes a hierarchy of Natural Phonological processes, based on the results of the diphthong corpus analysis, expressed in terms of finite-state automata, and then compared with the assumptions of Natural Phonology, and questions two aspects of Optimality Theoretic analysis.

Accounts of pronunciation errors stemming from perception and production are offered. Pronunciation problems with /əʊ/ diphthongs are claimed to stem from perception. Natural Phonological explanation shows how uncategorized auditory input is perceived thanks to undoing of phonological processes and disambiguation heuristics for lenition ambiguities, and Optimality Theoretic analysis fails because it operates with segmentally categorized input to perception before processing has begun.

Other pronunciation problems, like nasal vocalization or duration differences, stem from allophonic processes operation. Again, Natural Phonological and Optimality Theoretic

accounts are compared, pointing to problems with tractability in the Optimality Theoretic analysis (Karttunen 1998, Jäger 2002, McCarthy 2006).

## References

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