

Phonation in L1 and L2 speech

Is it possible to recognize a language solely on the basis of the speaker's voice, without regard to individual words and sounds? That is one of the questions we will investigate in the present project. We may encounter anecdotal reports of typical voice qualities for a given language. These reports have an acoustic basis – we are capable of identifying particular acoustic features of voices associated with a given language. Thus, the first goal of this project is to identify these features in the Polish language, through acoustic analysis, electroglottographic (EGG) studies of laryngeal setting, and experiments documenting Polish listeners' perception and categorization of voice qualities. In other words, we intend to gain a precise answer to the question “what do Polish voices sound like?”

Having characterized acoustic features that appear frequently in Polish voices, we will proceed to our next goal: a description of voice quality variability in the speech of individual speakers of Polish. In many languages, we may observe the use of non-modal voice qualities, particularly creaky voice, in given contexts or by different social groups. For example, in American English, creaky voice frequently appears at the end of phrases, yet in the speech of young women, it often becomes the dominant voice quality of a given speaker's speech. This finding has indeed captured the attention of the American popular press, becoming a social phenomenon. Our goal is to describe the factors influencing the use of non-modal phonation types in Polish. To realize this goal, we intend to use existing corpora of Polish speech. We hypothesize that we will find a number of contributing factors, including social, prosodic, grammatical, and phonological ones.

The third goal of our project is to study the influence of phonation on the acquisition of pronunciation of English as a second language (L2) by Polish learners. In most published descriptions, ‘foreign’ accents in L2 are defined in terms of the pronunciation of individual words and phrases, with particular attention to the articulation of certain sounds and sound sequences. It is very difficult to find descriptions of L2 English speech in which voice quality is taken into account. On the basis of a few pilot studies that have been published, we nevertheless know that voice quality may have an influence on how L2 speech is perceived. Our project will document these influences in the speech of Poles learning English as an L2.

This project will have both empirical and theoretical significance. With regard to its empirical contribution, the available collection of acoustic descriptions of Polish is extremely impoverished. Even if speakers of Polish are able to characterize a given voice as familiar or unusual, we are as yet not capable of describing which acoustic features such characterizations are based on. This project will constitute an important step toward filling this gap in our knowledge. The theoretical significance of the project stems from the new perspective it will afford on the question of cross-language phonetic similarity, which is a crucial concept in current theories of L2 speech acquisition. A deeper understanding of similarity in turn will provide a new perspective on the relationship between phonetics and phonology, which is still major point of controversy in linguistics.