**At the intersection of cross-linguistic similarity and cross-linguistic influence**

This proposal focuses on how listeners who know more than two languages perceive similarity between the sounds of their languages. The project aims at developing a method for measuring phonetic cross-linguistic similarity of sounds and processes that affect sounds when we speak.

The participants in the experiments will include adolescent listeners who speak Ukrainian/Russian as their native language(s), English as their foreign language and they learn Polish, because they recently moved to Poland. This is a chance to examine listeners with the first language and third language that come from the same language family (and the third language is learnt in real life situations) vs. the second language that comes from a different language family and that is learnt in a formal classroom setting. Ukrainian, Russian and Polish are all Slavic languages with relatively simple vowel systems and palatalization processes (consonant "softening"). English, on the other hand, has a complex vowel system and does not "soften" its consonants. Polish and Russian are devoicing consonants at the end of words, whereas English and Ukrainian distinguish between voiced and voiceless consonants word-finally.

The studies are going to concentrate on the perceived similarity of vowels and sound processes between the three languages. So far cross-linguistic similarity has been examined between two languages (non-native sounds were compared to native sounds). Such an approach prevented determining whether the second language sounds are compared or related by listeners to third language sounds as well or whether L3 sounds are compared to both L1 and L2 sounds. If we take into account L3 acquisition models related to grammar (Bardel and Falk 2007, Falk and Bardel 2011, Flynn, Foley and Vinnitskaya 2004, Rothman 2011, 2015, Slabakova 2016, Westergaard et al. 2017, Westergaard 2021) it is only natural to assume that various kinds of relationships between phonetic systems of all the languages a person knows might come to the foreground. There is no reason to believe that multilingual speech perception is different than multilingual acquisition of grammar, where systems from all languages interact. Yet not much has been done to incorporate all potential sources of influence in research on speech perception by people speaking more than three languages.

The methodology of the proposed experiments will include perception tests of various kinds in the languages known by the participants with the aim of developing a measure of multilingual phonetic cross-linguistic similarity. In one study the results of perception tasks are going to be juxtaposed with a production test. One of the studies will also address the influence of what we see on what we hear with reference to lip rounding.

The results of the studies will let us determine whether: 1) second and third language sounds are related to one another to the same degree as to the first language vowels; 2) whether violations in word-final devoicing are noticed to the same extent in L1, L2 and L3; 3) how "softening" processes influence the perception of foreign accent in L1, L2 and L3; 4) how audio-visual perception contributes to a non-native sound being more or less compared to a native or a non-native sound.