

Title: Second language learning and the double perceptual boundary effect

Abstract:

In this talk I review the research on the double perceptual boundary phenomenon found in bilingual speech categorization; then I present three new studies.

A body of literature has examined whether bilinguals categorize sounds in an acoustic continuum differently based on whether they are led to believe they are listening to one of their languages or the other, i.e. their linguistic expectations. In these studies, bilinguals are typically brought to the lab for a first session, they are induced into unilingual mode in one of their languages, and then they are invited to participate in a two-alternative force-choice categorization task. Then they are brought back to the lab, are induced into unilingual mode in their other language, and are asked to categorize the same set of stimuli. The stimuli are typically gathered from an acoustic continuum the end-points of which correspond to two phonemes in both of the languages of the participants (i.e., the /b/-/p/ contrast in Spanish vs. English). The crucial aspect of these studies is that the perceptual boundary for the two contrastive sounds differs between the two languages. Some studies have found that bilinguals display two perceptual boundaries for the same set of acoustic stimuli depending on whether they expect to be categorizing sounds in one language vs. the other. Other studies, however, have found no effect. In addition to the fact that results would seem to be rather random (in that some studies find them and others don't), some scholars have suggested that a number of experimental artifacts may have contributed to the findings in these studies. In this talk, I argue that studies such as these are very relevant for our understanding of new-category formation in second-language speech acquisition: they can help to establish whether phonetic drift occurring during second-language speech learning results from general perceptual recalibration or from new-category formation.

In addition to discussing this body of literature, I present three new studies. All of the studies to date investigate highly proficient early bilinguals. In the first study reported here, adult Portuguese learners of English studying their second language in a formal context in Brazil (beginners and intermediate learners) are shown to display the double-boundary effect. In the second one, English learners of Spanish who just finished their stay in a 7-week stateside immersion context are also shown to display the effect. The third study returns to the case of early proficient bilinguals, and it addresses some of the potential experimental artifacts that may have caused the positive results in the other two studies. The talk concludes with a discussion of some ideas regarding how studies such as these can inform our understanding of spoken-word recognition phenomena in bilinguals and adult second-language learners.