Polish bilinguals produce unvoiced stops even in voicing-conducive environments: OP perspective

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The extent to which phonetic detail should influence phonological representations has been the centre of a debate for quite some time. Despite some claims disregarding the necessity of conducting phonetic studies in order to validate phonological assumptions (e.g. Substance-free phonology; Hale and Reiss 2000), acoustic experiments have been shown to shed new light on some of the impressionistic assumptions made by phonologists and improve phonological analyses of various processes. As noted by Ohala (1990), if phonological representations fail to refer to phonetic research, they may fail to accurately encapsulate linguistic phenomena. While some progress in this respect has been made in recent years, "phonetics as a motivating force for phonology remains controversial" (Dziubalska-Kołaczyk 2012).

With respect to laryngeal typology the approaches differ. Some theories – e.g. Feature Theory (Chomsky and Halle 1968) – treat the phonetic implementation of laryngeal contrasts as an issue of no interest to phonology. Others – e.g. Laryngeal Realism (Lombardi 1991; Harris 1994; Honeybone 2005) – attempt to incorporate the phonetic reality into their representations.

In this talk I argue that phonetic evidence and insights from SLA research into cross-linguistic interaction might indeed help us determine the way in which two-way laryngeal systems should be represented and yield empirical support to the proposals made by leading laryngeal theories. According to the Speech Learning Model (Flege 1995), bi-directional cross-linguistic interaction stems from "equivalence classification", whereby L2 learners classify two sounds as belonging to the same phonological category and this can lead to a foreign accent in L2 as well as phonetic drift in L1 (Chang 2012). Assuming equivalence classification is correct in its predictions, the degree of CLI should depend on what a given theory sees as equivalent.

It has previously been shown that equivalence classification effects tend to be asymmetrical in two-way laryngeal systems insofar as they seem to target the voiced series more often. e.g. English-Czech (Podlipský et al. 2020), Bulgarian-English (Dokovova 2015), English-Spanish (Herd et al. 2015), or Brazilian Portuguese-English (Osborne 2016), Polish-English (Wojtkowiak 2022). The question as to what happens in voicing-conducive environments (i.e. when the voiced stop follows and precedes a vowel) has not been explored thus far for Polish-English.

Polish students read sentence lists in Polish, whereby a voiced- or voiceless-initial target word is preceded and followed by a non-high vowel. Longitudinal data obtained from first year students (N=20; tested three times) were compared with the productions of second- (N=15) and third-year (N=15) students as well as with 20 quasi-monolingual Polish speakers. The results show that no influence of phonetic training in English was exerted on Polish /p, t, k/, whereas drift effects in the case of /b, d, g/ were much more striking, with Polish bilinguals producing unvoiced, English-like realisations, despite the context encouraging miantenence of voicing.

It can be assumed, then, that /b, d, g/ are phonologically identical in Polish and English and hence, subject to drift effects, a scenario not predicted by mainstream phonological theories. An alternative approach is offered by Onset Prominence (Schwartz 2016 *et seq*). The representations postulated by OP rely on the feature [fortis] only, move away from linear, segment-oriented representations, and – as will be shown – predict the results of the empirical study presented herein, offering a preferable laryngeal typology of two-way systems.