

## **Corpus studies of variation in obstruent 'voicing' across languages and speakers: phonetic variation and implications for phonology**

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The implementation of stops, and of the laryngeal contrasts (often called 'voicing') they participate in, varies greatly across languages, as a function of similar acoustic cues -- VOT, f<sub>0</sub>, voicing during closure, duration of preceding vowel, and so on. Recent work in phonetics has also uncovered widespread variation across speakers of the same language---in how much they use VOT versus f<sub>0</sub> to cue a voiceless/voiced contrast, and so on. A longstanding question is the relationship of such cross-linguistic variation to phonological representation---for example whether languages differ in implementation of the same [+voice] contrast, or differ in their feature set ([voice], [spread]: 'laryngeal realism'), or whether phonetic realization is not diagnostic of features at all---but such debates have been based on relatively limited data. An outstanding issue is the implications of variation across speakers for existing theories. I describe several corpus studies of phonetic variation in stop realization which broaden the empirical picture--including F<sub>0</sub> across 14 languages and VOT/closure voicing across 7 languages stop contrast, and vowel duration before b/p across many dialects of English---and what relevance the results have (or do not) for phonology, including connections to phonetics and sound change.