

Imitation, entrainment, and sound change

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When speakers interact with one another, they inevitably coordinate their production behavior. Exactly how people do this and to what degree(s) are not well-known, but evidence of autonomous coordination, or entrainment, appears everywhere we look: in the spectral acoustics, in the rhythmic and temporal properties of speech, in word use, grammatical phrasing, and gesturing. It is also not known what role, if any, these instances of entrainment play in determining more lasting effects on aspects of speaker production (or perception).

For the purposes of this talk, I take the position that the mechanism of coordination -- whatever it may be -- is the continuation of what guides imitation and pattern learning during language acquisition; but only the mechanism, because the functional purpose shifts with maturation from acquiring essential patterns to flexibly adjusting acquired patterns on a small scale and usually temporarily. I argue that these continual adjustments serve various purposes, ranging from preserving pattern stability through fluctuation to adaptive entrainment of internal structures (speech and gesture, the effects of aging) and external structures such as environmental noise (Lombard effects) and entrained interlocution. Finally, I propose that these adjustments need not be small-scale and subliminal, but can also be recruited intentionally to make larger scale, systematic changes, as we do when we switch languages or take on different speaking styles.

To address these issues at least to the point of clarifying several empirical questions that can and should be asked, I demonstrate the application of a recent technique for assessing time-varying coordination using correlation mapping analysis (Barbosa et al., in press) to varied types of linguistic performance data.

Reference

Barbosa, A. V., Déchaine, R.-M., Yehia, H. C., & Vatikiotis-Bateson, E. (in press). Quantifying time-varying spatiotemporal coordination during interaction using correlation map analysis. *Journal of Acoustic Society of America*.