Linguistics 632: Articulatory Phonology

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Plan

This is a workshop on dynamical phonological models in which the atoms of phonological structure are articulatory gestures. Included will be: the basic theoretical motivation for this approach, formal tools (dynamics), use of the task dynamic (TaDA) model, and analysis of kinematic articulatory data. Insights into phonological structures and processes using gestures and linear and nonlinear dynamics will pursued.

Software

You will need to have MATLAB available on your computers in order to run TaDA.

Required Work

• Reading
• Leading class discussion of two articles
• Two or three laboratory exercises involving the use of TaDA and analysis of articulatory kinematic data and/or MRI data.
• Final paper involving gestural analysis of some phonological problem in some language, analysis of articulatory data, and/or modeling and synthesis using the gestural model.

Materials

Notes, reading assignments, and data for analysis are available here:
http://sail.usc.edu/~lgoldste/ArtPhon/
Course Outline (subject to change)

Week 1 (22 Aug): Introduction to Articulatory Phonology


Week 2 (29 Aug): Motor Representation in Speech Perception


Week 3 (5 Sept) : Gestural representation and auditory feedback in speech production


Weeks 4-5: Task Dynamics


**Week 6-7: Gestural Goals**


**Weeks 8-9: Gestural scores and Phonological Variation**


**Weeks 9-10: Dynamical models of intergestural coordination**

1. **Goldstein, L., Byrd, D., and Saltzman, E.** (2006). The role of vocal tract gestural action units in understanding the evolution of phonology. In M. Arbib (Ed.) *From Action*


Week 12: Speech Errors and Dynamical stability


Weeks 13: Prosody


Week 14: Dynamical models of phonological contrast and alternations

