Linguistics 45: Phonetics & Phonology

Classroom: Kohlberg 302 (also Dupont 138); TTh 2:40-3:55
Instructor: John Alderete

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Goals of the Course
- establish foundations in the major areas on phonetics and phonology (articulatory and acoustic phonetics, segmental and non-linear phonology, and the phonetics-phonology interface)
- develop descriptive and analytical techniques essential to the analysis of sounds, including experimental methods in phonetics, phonemic analysis, constituency and tonal phonology
- consider in a rigorous way what goes into an explanation in phonetics and phonology

Basis for Grading and Assignments
Grades
Calculating the grades is rather straightforward: it is derived directly from the sum of the homework grades. Some of the homework assignments will be more lengthy (like the lab assignments), and they will be weighted accordingly, e.g., ‘this assignment is worth 2 normal assignments’. Class participation is also important, especially as it informs homework assignments, but it will not be a data point in the calculation of your grade.

Assignments
A typical week will involve a reading assignment and a homework, though some long homeworks will extend beyond a week. It is extremely important that homeworks be turned in on time. Late homeworks are generally not accepted, but may be in two circumstances: (i) in case of a health emergency (usually with note from your doctor), and (ii) by use of a ‘break’. Every student is given one, and only one, ‘break’ in the class. The ‘break’ can be used to submit a late homework for full credit, or to redo a homework submitted on time for re-evaluation.

Textbooks and Other Course Materials
The core of the readings come from the two textbooks:

A Course in Phonetics, by Peter Ladefoged (Lad), Harcourt Brace College Publishers (the bookstore has the 4th edition, which we will use).

Understanding Phonology, by Carlos Gussenhoven and Haike Jacobs (GuJa), Arnold.

We will also be using the following software for our exploratory and experimental work in phonetics:

Sounds of the Worlds Languages (SOWL), a database developed at the UCLA Phonetics Laboratory to illustrate and teach about the range of sounds used in human languages with material on more than 80 languages [to learn more go to: http://www.humnet.ucla.edu/humnet/linguistics/faciliti/software/software.htm]

Praat, a comprehensive speech analysis, synthesis, and manipulation package includes general numerical and statistical stuff, is built on a general-purpose GUI shell for handling objects, and produces publication-quality graphics [to learn more go to: http://www.fon.hum.uva.nl/praat/]
Syllabus

N.B.: the exact dates of the topic areas covered below, and even the assignments, are subject to change. Use this syllabus as the default schedule of events in the class, but please know that some of these events may be shuffled around to accommodate special discussion topics.

Sept. 5: Introduction to the class
- introductory problem: English plurals
- discussion of main themes of the course
- logistics of the class
Homework: get the textbooks, and read over the syllabus

Part A. Foundations in Articulatory Phonetics

Sept. 7: Introduction to articulatory phonetics
- goals of linguistic phonetics and phonetic theory
- anatomy of the vocal tract
- place and manner of articulation
- anatomy of the larynx
- the oro-nasal process
- articulatory phonetics of vowels
Reading: Lad, chap. 1, Homework: exercises to be assigned in class

Sept. 12: Consonant sounds, part 1
- English consonants
- the phoneme and allophonic variation
- allophones of English consonants
Reading: Lad, pp. 23-28, chap. 3

Sept. 14: Consonant sounds, part 2, in Dupont 138 (the computer classroom)
- survey of selected languages, using SOWL
- illustrations of phonation type, airstream mechanisms, more on place of articulation
Homework: exercises to be assigned in class

Sept. 19: Vowel sounds, part 1
- English vowels
- allophones of English vowels
- tense/lax vowels
Reading: Lad, pp. 28-32, and chap. 4

Sept. 21: Vowel sounds, part 2, in Dupont 138
- survey of selected languages, using SOWL
- illustrations of rounded/unrounded vowels, different degrees of height, effects of stress/syllabification
- problems for articulatory study of vowels: motivation for acoustic study of vowels
Homework: TBA
Part B. Foundations in Phonology

Sept. 26: Introduction to phonology
  • motivating phonological structure
  • aims of phonology
  • phonology versus phonetics
  Reading: GuJa, chap. 2

Sept. 28: Phonology processes, part 1
  • processes in child phonology
  • underlying and surface forms
  • return to allophony
  Reading: GuJa, chap. 4

Oct. 3: Phonological processes, part 2
  • morpho-phonemic processes
  • survey of common processes with selected languages
  Homework: TBA

Oct. 5: Features
  • natural classes
  • motivating feature classes
  • types of feature values
  Reading: GuJa, Chap 5

Oct. 10: Rule formulation and the nature of phonological processes
  • nuts and bolts
  • processes as rules
  • motivating processes through constraints
  Reading: GuJa, pp. 86-91, Homework: TBA

Oct. 12: Slack day
  • case study on Dutch (based on chap. 7)
  • getting started on the midterm homework

[October Holiday, Oct. 16-20 off]

Part C. Acoustics and Experimental Phonetics

Oct. 24: Introduction to the phonetics-phonology interface
  • categorical versus gradient sound patterns
  • methods for distinguishing phonetic and phonological patterns
  • organization of the grammar
  • preliminaries for acoustic phonetics
  Reading: GuJa, pp. 128-133

Oct. 26: Background in acoustics, in Dupont 138 (until Oct 16th)
  • properties of sound waves, frequency and intensity
  • acoustic measurements
  • ways of presenting phonetic structures
  Reading: Lad, chap. 8
Oct. 31: More background, and acoustic properties of consonants
  • introduction to *praat*
  • illustrations of core concepts
  • illustrations of selected consonant sounds
Homework: TBA

Nov. 2: Acoustic analysis of vowels
  • cardinal vowels
  • English vowels revisited
  • transitions in CV and VC units and diphthongs
Reading: Lad, chap. 9

Nov. 7: Analysis of vowels, part 2
  • survey of vowels from some other languages
  • illustrations of distinctions made in part A
Homework: lab 1 (TBA)

Nov. 9: More background
  • follow-up on lab assignment
  • introduction to experimental techniques and statistical analysis

Nov. 14: Phonetic implementation
  • target and interpolation
  • gestures
  • introduction to lab 2
Homework: lab 2

Nov. 16: Closing discussion
  • follow-up to lab assignment
  • discussion of methods and organization of results
  • summary of findings

Part D. Non-Linear Phonology

Nov. 21: Tonal phonology
  • introduction to tonal systems
  • case study: Etung
  • evidence for auto-segmental tone
Reading: GuJa, chap. 9

Nov. 28: Tonal phonology, part 2
  • lexical and phrasal tone
  • case study: tone in Japanese
Homework: TBA

Nov. 30: Syllable structure, part 1
  • skeletal structure
  • skeletons as morphemes
  • empty skeletal slots
Reading: GuJa, chap. 10
Dec. 5: Syllable structure, part 2
- the mora
- distributional constraints
- syllable structure related processes
  Homework: TBA

Dec. 7: Syllables and feet
- syllable quantity and stress
- the prosodic foot
- reference to constituency in morphology
  Reading: GuJa, chap.13, Homework: TBA

Dec. 12: Slack day
- closing discussion of non-linear phonology
- discussion of the final homework
- prospectus of phonology proseminar and other Ling classes