

LIN 891: Speech Perception Spring 2014

Instructor/TA Info:

Instructor

Karthik Durvasula

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Meetings:

by Regular Off. hours:

Thur, 2:30pm – 5:30pm

(or) by appointment

[NOTE: It's best to email me a day or two BEFORE you meet with me so that I can let you know if I am free at the time you plan to come.]

Class Schedule / Location

Wednesday 3:00 – 5:50pm Wells Hall A232

COURSE GOALS:

This course is intended to introduce students to issues related to *Speech Perception*. The literature on speech perception is simply too large to cover in a single course (or perhaps even in multiple courses!). In stead, in this course we will ask a much narrower question: How does a listener's phonological knowledge (or more generally, knowledge about language-specific patterns) affect speech perception? We will focus on featural, segmental, phonotactic and coarticulatory knowledge. Another important aim of the course is to try to suggest new experiments/ideas that might lead to a clarification of the issues that are currently being debated in the literature.

REQUIRED TEXT:

Throughout this course, the emphasis will be on reading original experimental sources. All the required readings will be given to you in one of the following ways:

- a) distributed in class, b) posted on the course website on ANGEL, and/or c) placed on reserve in the library.

NOTE: You are responsible for all material in the assigned chapters and supplemental readings, even if we do not discuss it in class (unless you are given information to the contrary). You are also responsible for all material covered that is not in the book (unless you are given information to the contrary).

COURSE REQUIREMENTS:

- **Attendance**

Attendance will not be taken. However, students are expected to attend all classes since classroom discussion is most crucial to get a better understanding of the material. Please be sure to get the notes from any class you may miss. Some materials maybe be sent via email, but you should also check with me or a classmate regarding material you may have missed.

- **Readings**

Students are expected do all the assigned readings, preferably before a topic begins.

- **Participation**

Students are expected to attend all classes and participate in group work and the discussions. Everyone in the class will be graded on ever paper presented in the course. Those who aren't presenters get graded for their discussion contribution.

- **Final Research Paper**

You will work towards designing a full-fledged experiment in the first half of the course, and actually run it and analyse it during the second half. We will have regular discussion about the progress of your work, and a part of your grade (Research Presentations) is related to these discussions. It is best to come to class prepared with a short hand-out for such research discussions.

- **Grading Policy**

Note: There are no Tests.

GRADING WEIGHTS:

| | |
|--------------------------------|-------------|
| In-class Discussion | 25% |
| Research Presentations | 15% |
| Final Res. Presentation | 20% |
| Final Paper | 40% |
| | 100% |

GRADING SCALE:

| | | |
|------------|----------|-----------------------|
| 4.0 | - | 93% or higher |
| 3.5 | - | 85% - 92.9% |
| 3.0 | - | 77% - 84.9% |
| 2.5 | - | 69% - 76.9% |
| 2.0 | - | 61% - 68.9% |
| 1.5 | - | 53% - 60.9% |
| 1.0 | - | 45% - 52.9% |
| 0.0 | - | 44.9% or lower |

If you cannot come to a scheduled test, you must discuss this with me at least ONE CLASS PERIOD BEFORE the test. If there is an emergency after this, and you cannot contact anyone in person, send me an e-mail explaining the nature of the emergency and how you can be contacted to discuss the matter.

COURSE SCHEDULE:

This schedule is subject to slight variation, so if you miss a class, be sure to check with me or a classmate. It is most helpful to do the readings for a given topic BEFORE the first class dealing with that topic. This will make the lectures easier to follow, and you will be in a better position to ask questions about things that might not be clear to you.

Homework will be emailed or handed out in class.

| WEEK | DATE | TOPIC |
|------|----------------------|--|
| | 8 th Jan | Discussion of Syllabus + Course expectations |
| | 15 th Jan | Segments: Categorical Perception and Phonology a) Goto (1971). Auditory perception by normal Japanese adults of the sounds "l" and "r" b) Boomershine, Hall, Hume, Johnson (2008). The Impact of Allophony versus Contrast on Speech Perception |
| | 22 nd Jan | Segments: Experimental paradigm effects a) Pisoni (1973). Auditory and phonetic memory codes in the discrimination of consonants and vowels b) Johnson & Babel (2009). On the perceptual basis of distinctive features: Evidence from the perception of fricatives by Dutch and English speakers |
| | 29 th Jan | Segments: Perceptual Magnet Effect a) Kuhl (1991). Human adults and human infants show a “perceptual magnet effect” for the prototypes of speech categories, monkeys do not Further reading: Kuhl, Iverson (1995). Linguistic Experience and the Perceptual Magnet Effect |
| | 5 th Feb | Segments: Tone a) Huang (2001). The interplay of perception and phonology in tone 3 sandhi in Chinese Putonghua b) Brunelle (2009). Tone perception in Northern and Southern Vietnamese |
| | 12 th Feb | Phonotactics: Featural generalisations a) McQueen et al (2006). Phonological Abstraction in the Mental Lexicon b) Moreton (2002). Structural constraints in the perception of English stop-sonorant clusters |
| | 19 th Feb | Phonotactics: Perceptual Illusions a) Dupoux et al (1999). Epenthetic Vowels in Japanese: A Perceptual Illusion? b) Kabak & Idsardi (2007). Speech Perception is not Isomorphic to Phonology: The case of Perceptual Epenthesis |

| | | |
|----|---|--|
| | 26 th Feb | Phonotactics: Influence from Token Phonetics a) Davidson et al b) Preliminary Research Presentations |
| | 5 th March | <i>Spring Break (No class)</i> |
| | 12 th March | Phonotactics: Universal Patterns a) Berent et al (2008); b) Peperkamp reply; c) Berent et al reply. |
| | 19 th March | Coarticulation: a) Gaskell & Marslen-Wilson, 1996; b) Gow, 2003; c) Mitterer, Kim, & Cho, 2013 |
| | 26 th March | Coarticulation and Underpsecification: a) Lahiri, Marslen-Wilson (1991). The mental representation of lexical form: a phonological approach to the recognition lexicon b) Hwang, Monahan, Idsardi (2010). Underspecification and asymmetries in voicing perception |
| | 2 nd April | Statistical Patterns: a) Maye, Werker, Gerken (2002). Infant sensitivity to distributional information can affect phonetic discrimination b) Hay, Pierrehumbert, Beckman (2004). Speech Perception, Well-formedness and the Statistics of the Lexicon |
| | 9 th April | Towards a Theory of Speech Perception: a) Clayard, Aslin, Tanenhaus, Jacobs (2008). Perception of speech reflects optimal use of probabilistic speech cues b) McClelland, Mirman, Holt (2006). Are there interactive processes in speech perception. |
| | 16 th April | Theories of Speech Perception: TRACE, FUL, Bayesian Perception... a) TBA b) TBA |
| | 23 rd April | Effect of Speech Perception on Phonology: Moreton, Ohala, Steriade (P-Map) a) Moreton (2008). Analytic bias and phonological typology b) Yu (2011). On measuring phonetic precursor robustness: a response to Moreton |
| 17 | 28 th April (Monday) Finals Week | Final Presentations (3:00-5:00pm; in your regular classroom) |

Appendix 1: Some notes on how to read an experimental paper

In what follows, I briefly discuss the strategy I use to read experimental papers. I have found it very useful and time-saving. Try it and see if it works for you.

- Step 1: Read the *Abstract* and think for a minute about what the article will try and show.
- Step 2: Read the *Introduction* to get familiar with the background facts and viewpoints of the authors.
- Step 3: Read the *Conclusions* to see what they claim to have shown.
- Step 4: Now that you have a clear idea of what to expect, look at the actual *Experiment* and constantly think about confounds (meaningful confounds that could affect the interpretation, not silly side-details).
- Step 5: Then see if the conclusions and interpretation are merited. Or if there is another possible explanation.
- Step 6: Ask yourself how what you have learned from the paper modifies your view of the general topic.

NOTE: Steps 5 & 6 are the MOST important step – synthesis of the knowledge. This is what allows you to actually be a good scientist in the long run. This is what generates new ideas and experiments. Every other step could be done by a decent high-school student could do.

Appendix 2: What to present when you present a paper

- 1) Topic
 - a. What is the general topic the paper is trying to get at?
 - b. What is the narrower question that the authors actually attempt to answer?
- 2) What is the experimental paradigm or set-up?
 - a. Are there any limitations of the experimental paradigm used?
 - b. Are there any possible confounds?
 - c. How could one improve the experiment?
- 3) What do the stimuli look like?
 - a. Why did they choose those?
 - b. Can you think of any problems/confounds?
 - c. How could one improve the experiment?
- 4) Experimental Results
 - a. Plots, tables...
- 5) Conclusions
 - a. Are the inferences made by the authors reasonable from the data?
 - b. Any other viewpoints/explanations that account for the data?
 - c. What kind of experiment could tease apart the other possible view and the view in the paper?

Appendix 3: What to prepare for when you are not presenting

- 1) Since those who are not presenting get graded on participation and input, you will have to do effectively the same thing as the presenter to get ready for the class.
- 2) Of course, you don't need to create an actual presentation.
- 3) But, notes following a pattern similar to those in *Appendix 2* will make your life easier.