
LIN 891: Speech Perception

Spring 2020

Instructor

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Meetings

by Regular Off. hours:
Thur, 2:00 - 4:00pm
(or) by appointment

Class Schedule / Location

Monday	3:00 - 5:50pm	A308 Wells Hall
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Note 1: 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.

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!). Instead, in this course we will ask a much narrower question: How does a listener's knowledge (phonetic knowledge, phonological knowledge, sociolinguistic knowledge) affect speech perception? 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.

Require Readings

Throughout this course, the emphasis will be on reading original experimental sources. All the required readings have been linked to on the syllabus. If need be, additional readings may be given to you in one of the following ways:

- posted on the course website (D2L).
- sent via email.
- placed on reserve in the library.

Course Requirements

Attendance

Students are expected to attend and participate in all classes. It is important to attend all classes since materials that are not covered in the textbook maybe be presented. Please be sure to check with me or a classmate regarding material you may have missed.

Readings

Students are expected to do all the assigned readings. You must do the reading before the day it is discussed in class. 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. It will also help with your homework.

Research

General critique: In this short paper (5-6 pages, single spaced), you will identify a topic that you would like to work on and do a literature survey for the topic. You will further identify any issues with previous literature and propose a potential experiment (this needn't be completely fleshed out). You will consider potential outcomes for the experiment, and then discuss how the outcomes might address the issue you raised. The format should closely follow the guidelines listed in the document "Some notes on writing papers" that has been uploaded to D2L.

Final paper: In this paper, you will present original experimental work that is an extension of the research that you identified in the *General critique*. The format should closely follow the guidelines discussed in the document "Some notes on writing papers" that has been uploaded to D2L.

In-class Discussion

If you are under-prepared for a class, you will receive a 0% for that day's in-class discussion grade. Please come to class having read the assigned readings and with appropriate questions/doubts.

Grading

You will present papers during the course of the semester. Furthermore, you will present your final research topic, and will submit a final paper based on the research presentation.

Grading Weight		Grading Scale	
Class participation	5%	4.0	93% or higher
General presentations	10%	3.5	85% - 92.9%
General critique of a topic	25%	3.0	77% - 84.9%
Final paper presentation	10%	2.5	69% - 76.9%
Final paper	50%	2.0	61% - 68.9%
Total	100%	1.5	53% - 60.9%
		1.0	45% - 52.9%
		0.0	44.9% or lower

Note 3: If you cannot come to class, you must discuss this with me at least ONE CLASS PERIOD BEFORE. If there is an emergency, 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.

Spartan Code of Honor Academic Pledge

As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.

Course Schedule [subject to slight variation]

Wk	Date	Topic	Presenter
1	January 6	Syllabus and Course discussion	
2	January 13	<p>Basic audition</p> <p>1. Winn, M. B., & Stilp, C. E. (2019). Phonetics and the Auditory System. In <i>The Routledge Handbook of Phonetics</i> (pp. 164-192). Taylor and Francis.</p> <p><i>Extra:</i> Johnson, K. (2011). Basic Audition (Chapter 4). In <i>Acoustic and Auditory Phonetics</i>, 3rd Edition, Wiley-Blackwell [Note: it's available as an e-document through the MSU library]</p>	Karthik
3	January 20	<i>MLK Day; No Class</i>	
4	January 27	<p>Categorical perception</p> <p>1. Liberman, A. M., Harris, K. S., Hoffman, H. S., & Griffith, B. C. (1957). The discrimination of speech sounds within and across phoneme boundaries. <i>Journal of Experimental Psychology</i>, 54(5), 358–368.</p> <p>2. Eimas, P. D. (1963). The Relation between Identification and Discrimination along Speech and Non-Speech Continua. <i>Language and Speech</i>, 6(4), 206–217.</p> <p>3. Massaro, D. W., Cohen, M. M. (1983). Categorical or continuous speech perception: A new test. <i>Speech Communication</i> 2(1), 15-35.</p> <p><i>Extra</i> Hary, J.M., Massaro, D.W. (1982). Categorical results do not imply categorical perception. <i>Perception & Psychophysics</i>, 32, 409–418.</p> <p><i>Extra</i> Kiefte, M., & Kluender, K. R. (2005). Pattern Playback revisited: Unvoiced stop consonant perception. <i>The Journal of the Acoustical Society of America</i> 118, 2599.</p>	<p>1. Yunting</p> <p>2. Yongqing</p> <p>3. Darby</p>

5	February 3	<p>Multiple Cues</p> <p>1. Lisker, L., & Abramson, A.S (1964). A cross-language study of voicing in initial stops: Acoustical measurements. <i>Word</i>, 20, 384-422.</p> <p>2. Lisker, L. (1986). “Voicing” in English: A Catalogue of Acoustic Features Signaling /b/ Versus /p/ in Trochees. <i>Language and Speech</i>, 29(1), 3–11.</p> <p>3. Repp B. H. (1982). Phonetic trading relations and context effects: new experimental evidence for a speech mode of perception. <i>Psychol Bulletin</i>. 92(1):81-110.</p> <p>Extra: Repp, B. H. (1983). Trading relations among acoustic cues in speech perception are largely a result of phonetic categorization. <i>Speech Communication</i>, 2(4), 341-361.</p> <p>Extra: Kingston, J., & Diehl, R. (1994). Phonetic Knowledge. <i>Language</i>, 70(3), 419-454.</p> <p><i>Extra:</i> Toscano, J. C., & McMurray, B. (2010). Cue integration with categories: Weighting acoustic cues in speech using unsupervised learning and distributional statistics. <i>Cognitive science</i>, 34(3), 434–464. doi:10.1111/j.1551-6709.2009.01077.x</p>	<p>1-2. Naiyan</p> <p>3. Yunting</p>
6	February 10	<p>Exemplar theories</p> <p>1. Background on speaker variability: Munson, B., & Babel, M. (2019). The phonetics of sex and gender. In <i>The Routledge Handbook of Phonetics</i> (pp. 499-525). Taylor and Francis.</p> <p>2. Johnson, K. (1997). Speech perception without speaker normalization: An exemplar model. In Johnson & Mullenix (eds) <i>Talker Variability in Speech Processing</i>. San Diego: Academic Press. pp. 145-165.</p>	<p>1. Yongqing</p> <p>2. Karthik</p>
<i>Evidence of Abstraction</i>			
7	February 17	<p>Segments</p> <p>1. Nearey., T. M. (1990). The segment as a unit of speech perception. <i>Journal of Phonetics</i>, 18 (3), 347-373.</p> <p>2. Nearey, T. M. (2001). Phoneme-like units and speech perception, <i>Language and Cognitive Processes</i>, 16:5-6, 673-681.</p> <p>Help Goldsmith, J. (ms). Probability for linguists.</p> <p><i>Extra</i> Allen, J. B. (1994). How do humans process and recognize speech?. <i>IEEE Transactions on Speech and Audio Processing</i>. 2(4), 567-577</p> <p><i>Extra</i> Nearey, T. M. (2004). On the Factorability of Phonological Units in Speech Perception. <i>Laboratory Phonology</i> 6, 197-221.</p>	<p>1. Karthik</p> <p>2. Karthik</p>

8	February 24	<p>Features</p> <ol style="list-style-type: none"> McQueen, J.M., Cutler, A. & Norris, D. (2006), Phonological Abstraction in the Mental Lexicon. <i>Cognitive Science</i>, 30: 1113-1126. Moreton, E. (2002). Structural constraints in the perception of English stop-sonorant clusters. <i>Cognition</i>, 84 (1), 55-71. <p>Due: General Critique</p>	<ol style="list-style-type: none"> Naiyan Darby
9	March 2	<i>Spring Break</i>	
10	March 9	<p>Syllables and general issues</p> <ol style="list-style-type: none"> Kabak, B. & Idsardi, W. J. (2007). Perceptual Distortions in the Adaptation of English Consonant Clusters: Syllable Structure or Consonantal Contact Constraints? <i>Language and Speech</i> 50: 23-52. Holt, L.L., & Lotto, A.J. (2010). Speech perception as categorization. <i>Attention Perception Psychophysics</i> 72, 1218–1227. <p>Extra: Kiefte, M., & Nearey, T. M., (2019). Theories and models of speech perception. In <i>The Routledge Handbook of Phonetics</i> (pp. 289-313). Taylor and Francis.</p>	<ol style="list-style-type: none"> Karthik
11	March 16	<p>Universal knowledge (The SSP)</p> <ol style="list-style-type: none"> Berent, I., Steriade, D., Lennertz, T., & Vaknin, V. (2007). What we know about what we have never heard: Evidence from perceptual illusions. <i>Cognition</i>, 104, 591–630. Peperkamp, S. (2007). Do we have innate knowledge about phonological markedness? Comments on Berent, Steriade, Lennertz, and Vaknin. <i>Cognition</i>, 104, 531-537. Berent, I. & Lennertz, T. (2007). What we know about what we have never heard before: Beyond phonetics: Reply to Peperkamp. <i>Cognition</i>, 104, 638–643. 	<ol style="list-style-type: none">
<i>Context Effects</i>			
12	March 23	<p>Coarticulation</p> <ol style="list-style-type: none"> Gaskell, G., & Marslen-Wilson, W. (1996). Phonological variation and inference in lexical access. <i>Journal of Experimental Psychology: Human Perception and Performance</i>, 22, 144–158. Gow, D. W. (2003). Feature parsing: Feature cue mapping in spoken word recognition. <i>Perception & Psychophysics</i>, 65(4), 575–590. Mitterer, H., Kim, S., & Cho, T. (2013). Compensation for complete assimilation in speech perception: The case of Korean labial-to-velar assimilation. <i>Journal of Memory and Language</i>, 69, 59–83. 	<ol style="list-style-type: none">

13	April 30	<p>Evidence of the use of phonological generalisations</p> <ol style="list-style-type: none"> 1. Darcy, I., Ramus, F., Christophe, A., Kinzler, K., & Dupoux, E. (2009). Phonological knowledge in compensation for native and non-native assimilation. In F. Kügler, C. Féry, & R. Vijver (Eds.), <i>Variation and gradience in phonetics and phonology</i> (pp. 265–309). Berlin, New York: Mouton de Gruyter. 2. Dupoux, E., Kakehi, K., Hirose, Y., Pallier, C., & Mehler, J. (1999). Epenthetic vowels in Japanese: A perceptual illusion?. <i>Journal of Experimental Psychology-Human Perception and Performance</i>, 25(6), 1568–1578. 3. Durvasula, K., & Kahng, J. (2016). The role of phrasal phonology in speech perception: What perceptual epenthesis shows us. <i>J. Phonetics</i>, 54, 15-34. 	<ol style="list-style-type: none"> 1. 2. 3.
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Sociolinguistic knowledge

14	April 6	<p>Evidence of the use of sociolinguistic knowledge</p> <ol style="list-style-type: none"> 1. Niedzielski, N. (1999). The Effect of Social Information on the Perception of Sociolinguistic Variables. <i>Journal of Language and Social Psychology</i>, 18(1), 62–85. 2. Hay, J., & Drager, K. 2010. Stuffed toys and speech perception. <i>Linguistics</i>, 48(4), 865–892. 	<ol style="list-style-type: none"> 1. 2.
15	April 13	<p>Problems with experiment design</p> <ol style="list-style-type: none"> 1. Walker, M., Szakay, A., & Cox, F. (2019). Can kiwis and koalas as cultural primes induce perceptual bias in Australian English speaking listeners?. <i>Laboratory Phonology: Journal of the Association for Laboratory Phonology</i>, 10(1), 7. <p>Updates on final topics</p>	<ol style="list-style-type: none"> 1. 2.
16	April 20	<p>Modelling</p> <ol style="list-style-type: none"> 1. Kleinschmidt, D. F. & Jaeger, T. F. (2015). Robust speech perception: Recognize the familiar, generalize to the similar, and adapt to the novel. <i>Psychological Review</i>, 122(2). <p><i>Extra</i> Kleinschmidt, D. (2016). <i>The Case of Speech Perception</i>. PhD Dissertation. University of Rochester.</p>	<ol style="list-style-type: none"> 1. Karthik
	Wed, Apr 29 (Finals Week) 5:45-7:45pm	Final Presentations (in your regular classroom)	