

LING258 Advanced graduate psycholinguistics

Meets: MW, 4:30- 6:00pm
Stevenson 217

Instructor: Matt Wagers <mwagers@ucsc.edu>
231 Stevenson, x9-1550

Office hours: M/W, 1-2:30pm

Course web site: <http://people.ucsc.edu/~mwagers/ling258/>

What is covered

LING257 - “Psycholinguistics and linguistic theory” - was a broad topical overview of issues in language processing and its interfaces with core areas of the grammar. LING258 takes a more in-depth and computational approach to a more restricted set of issues. Part of the task of a theory of language processing is to explain why some forms in language are (dis)preferred or difficult to produce, comprehend or acquire. Broadly speaking, these theories all incorporate some account of (i) *resource limitations* and (ii) *how knowledge of language and experience with language processing combines with perceptual evidence*. To understand whether both pieces (i) & (ii) are necessary, how they might interact, etc., this course divides itself into three units: **firstly**, we read some important early versions of both the Garden Path theory and species of Constraint-based Interactionism; **then**, we consider the role expectation and prediction plays in language processing; **finally**, we address the issue of memory architecture and memory limitations. We will learn in detail about some explicit computational models/hypotheses/postulates - like Competitive Attachment, the Entropy Reduction Hypothesis, Surprisal, and ACT-R. The readings will begin somewhat historically, but quickly become very contemporary.

How you will contribute

Course members will ...

- be responsible for giving presentations on some readings - how many will depend in part on the size of the class, but it will not exceed two.
- engage in an extended research project, by choosing from one of the several proposed themes below and meeting regularly with the course instructor throughout the quarter to develop the project. This project will culminate in a seminar-length paper.

Themes:

- The status of adjuncts
- Empty categories
- Levels of representation in making predictions
- Case and agreement

Schedule (updated 1/15/2014)

Single-path models

[8 Jan]

Frazier, L., Fodor, J. (1978). The sausage machine: a new two-stage parsing model. *Cognition*, 6, 291-325.

[13, 15 Jan]

Berwick, R., Weinberg, A. (1984). Parsing and government-binding theory. In *The Grammatical basis of linguistic performance: language use and acquisition* (pp. 142-196). Cambridge, MA: MIT Press.

Constraint-based interactionism

~~MacDonald, M., Pearlmutter, N., Seidenberg, M. (1994). Lexical nature of syntactic ambiguity resolution. *Psychological Review*, 4, 676-703.~~

[22-27 Jan]

Abney, S. P., & Johnson, M. (1991). Memory Requirements and Local Ambiguities of Parsing Strategies. *Journal of Psycholinguistic Research*, 20(3), 233–250.

Abney, S. P. (1989). A computational model of human parsing. *Journal of Psycholinguistic Research*, 18(1), 129–144. doi:10.1007/BF01069051.

[29 Jan]

Karl

Pritchett, B. L. (1992). Grammatical competence and parsing performance. University of Chicago Press. [excerpts] Ch 1, 3, 5.

[3 Feb]

Brianna

Merlo, P., Stevenson, S. (2000). Lexical syntax and parsing architecture. In Crocker, M., Pickering, M., Clifton, C., Eds., *Architecture and Mechanisms for Language Processing*. Cambridge, UK: Cambridge University Press.

Clifton, C., Jr., Staub, A. (2008). Parallelism and competition in syntactic ambiguity resolution. *Language and Linguistics Compass*, 2, 234-250. [and references therein]

Status of Adjuncts

Anna + Clara

[5, 10 Feb]

Frazier, L. (1996). *Construal*. Cambridge, MA: MIT Press. [selected chapters].

Speer, S.R., Clifton, C., Jr. (1998). Plausibility and argument structure in sentence comprehension. *Memory & Cognition*, 26, 965-978.

Part 2: Expectation and prediction

Empirical range Karen presents one of these (Dillon?)

Staub, A. Clifton, C. (2006). Syntactic prediction in language comprehension: Evidence from *either ... or*. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 32, 425-436.

Dillon, B., Nevins, A., Austin, A. C., & Phillips, C. (2012). Syntactic and semantic predictors of tense in Hindi: An ERP investigation. *Language and Cognitive Processes*, 27(3), 313-344.

Lau, E., Holcomb, P.J., Kuperberg, G.R. (2013). Dissociating N400 effects of prediction from association in single word contexts. *Journal of Cognitive Neuroscience*, 25, 484-502.

Vasishth, S., Lewis, R. (2006). Argument-head distance and processing complexity: Explaining both locality and anti-locality effects. *Language*, 82:767-794.

Levy, R. P., & Keller, F. (2012). Expectation and locality effects in German verb-final structures. *Journal of Memory and Language*.

General theories

Hale, J. (2006). Uncertainty about the rest of the sentence. *Cognitive Science*, 30(4), 643-672.

Levy, R. (2008). Expectation-based syntactic comprehension. *Cognition*, 106, 1126-1177.

Chater, N., Crocker, M., Pickering, M. (1998). The rational analysis of inquiry: the case of parsing. In Oaksford, M., Chater, N., Eds., *Rational models of cognition* (pp. 441-468). Oxford, UK: Oxford University Press.

Hale, J. T. (2011). What a rational parser would do. *Cognitive Science*, 35(3), 399-443.

Tabor, W., Galantucci, B., & Richardson, D. (2004). Effects of merely local syntactic coherence on sentence processing. *Journal of Memory and Language*, 50(4), 355-370.

Konieczny, L., Müller, D., Hachmann, W., Schwarzkopf, S., & Wolfer, S. (2009, July). Local syntactic coherence interpretation. Evidence from a visual world study. In *31st Annual Conference of the Cognitive Science Society*.

Levy, R., Bicknell, K., Slattery, T., & Rayner, K. (2009). Eye movement evidence that readers maintain and act on uncertainty about past linguistic input. *Proceedings of the National Academy of Sciences*, 106(50), 21086-21090.

Vasishth, S., Suckow, K., Lewis, R. L., & Kern, S. (2010). Short-term forgetting in sentence comprehension: Crosslinguistic evidence from verb-final structures. *Language and Cognitive Processes*, 25(4), 533-567.

Part 3: Memory

Lewis, R. L. (1996). Interference in short-term memory: The magical number two (or three) in sentence processing. *Journal of Psycholinguistic Research*, 25, 93-115.

Gibson, E. (2000). The dependency locality theory: a distance-based theory of linguistic complexity. In Marantz, A., Miyashita, Y., O'Neil, W., Eds., *Image, language, brain: papers from the first Mind Articulation Project Symposium* (pp. 95-126). Cambridge, MA: MIT Press.

Jonides, J., Lewis, R. L., Nee, D. E., Lustig, C. A., Berman, M. G., & Moore, K. S. (2008). The mind and brain of short-term memory. *Annu. Rev. Psychol.*, 59, 193-224.

McElree, B. (2006). Accessing recent events. *Psychology of learning and motivation*, 46, 155-200.

Van Dyke, J. A., & Lewis, R. L. (2003). Distinguishing effects of structure and decay on attachment and repair: A cue-based parsing account of recovery from misanalyzed ambiguities. *Journal of Memory and Language*, 49(3), 285-316.

Lewis, R. L., & Vasishth, S. (2005). An activation-based model of sentence processing as skilled memory retrieval. *Cognitive Science*, 29(3), 375-419.

Van Dyke, J. A., & McElree, B. (2006). Retrieval interference in sentence comprehension. *Journal of Memory and Language*, 55(2), 157-166.

Dillon, B., Mishler, A., Sloggett, S., & Phillips, C. (2013). Contrasting intrusion profiles for agreement and anaphora: Experimental and modeling evidence. *Journal of Memory and Language*.