

Molly L. Lewis

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Education

Ph.D. (in progress), Developmental Psychology, Stanford University, expected spring 2017

B.A., Linguistics, Reed College, May 2009

Machine Learning Summer School, Tübingen, Germany, summer 2013

Graduate coursework, Psychology Department, University of Illinois at Urbana-Champaign, 2010

Employment

Lab Coordinator, Communication and Language Lab (PI: Duane Watson), University of Illinois at Urbana-Champaign, 2009 – 2011

Research Interests

How does a word come to stand for a meaning? My research explores this question at two levels of analysis: the individual speaker acquiring language and the socially-emergent lexicon. These two levels of analysis take place over different timescales—the lifespan of a speaker and the course of language evolution, respectively. But, they are necessarily deeply related to each other because the lexicon that emerges from a social group is the product of individual speakers acquiring and transmitting a language. I use experimental and computational methods to explore this and related questions.

Honors and Awards

Paula Menyuk Travel Award BUCLD (2015)

Cognitive Science Society Travel Award (2013)

Honorable Mention, NSF Graduate Research Fellowship Program (2013, 2012)

Commended for Excellence in Scholarship, Reed College (2009, 2008, 2007)

Publications

- Lewis, M.** & Frank, M. C. (under review). Understanding the effect of social context on learning: A replication of Xu and Tenenbaum (2007b).
- Lewis, M.** & Frank, M. C. (under review). The length of words reflects their conceptual complexity.
- Lewis, M.** & Frank, M. C. (in press). Linguistic structure emerges through the interaction of memory constraints and communicative pressures. Commentary on M. Christiansen N. Chater, The Now-or-Never Bottleneck: A Fundamental Constraint on Language. *Behavioral and Brain Sciences*.
- Frank, M. C., Sugarman, E., Horowitz, A. C., **Lewis, M. L.**, & Yurovsky, D. (in press). Using tablets to collect data from young children.
- Lewis, M.** & Watson, D. G. (2015). Effects of lexical semantics on acoustic prominence. *Language and Cognition*.
- Lewis, M.** & Frank, M. C. (2015). Conceptual complexity and the evolution of the lexicon. *Proceedings of the 37th Annual Meeting of the Cognitive Science Society*.
- Lewis, M.**, Sugarman, E., & Frank, M. C. (2014). The structure of the lexicon reflects principles of communication. *Proceedings of the 36th Annual Meeting of the Cognitive Science Society*.
- Fraundorf, S. H., Diaz, M. I., Finley, J. R., **Lewis, M. L.**, Tooley, K. M., Isaacs, A. M., Lam, T. Q., Trude, A. M., Brown-Schmidt, S., & Brehm, L. E. (2014). CogToolbox for MATLAB. Retrievable from <http://www.scottfraundorf.com/cogtoolbox.html>
- Lewis, M.** & Frank, M. C. (2013). Modeling disambiguation in word learning via multiple probabilistic constraints. *Proceedings of the 35th Annual Meeting of the Cognitive Science Society*.
- Lewis, M.** & Frank, M. C. (2013). An integrated model of concept learning and word-concept mapping. *Proceedings of the 35th Annual Meeting of the Cognitive Science Society*.

Talks

- Lewis, M.** (2015, December). The role of communicative pressures in shaping the lexicon. Invited talk at the Laboratoire de Sciences Cognitives et Psycholinguistique, ENS, Paris, France.
- Lewis, M.**, Braginsky, M., Bergmann, C., Tsuji, S., Cristia, A. & Frank, M. C. (2015, November). MetaLab: tool for power analysis and experimental planning in developmental research. Talk presented at the 40th annual meeting of the Boston University Child Language Development, Boston, Massachusetts.
- Lewis, M.** & Frank, M. C. (2015, July). Conceptual complexity and the evolution of the lexicon. Talk presented at the 37th annual meeting of the Cognitive Science Society, Pasadena, California.
- Lewis, M.** (2015, February). The length of words reflects their cognitive complexity. Cognitive-Neuroscience Talk Series, Department of Psychology, Stanford University.
- Lewis, M.** & Frank, M. C. (2014, July). The structure of the lexicon reflects principles of communication. Talk presented at the 36th annual meeting of the Cognitive Science Society, Quebec City, Canada.
- Lewis, M.** & Frank, M. C. (2014, June). Understanding the psychological sources of communicative behavior. Talk presented at the 40th Annual Meeting of the Society for Philosophy and Psychology, Vancouver, Canada.
- Lewis, M.** (2014, April). The structure of the lexicon reflects principles of communication. Developmental Brownbag, Department of Psychology, Stanford University.
- Lewis, M.** (2014, February). The structure of the lexicon reflects with principles of communication. Cognitive Talk Series, Department of Psychology, Stanford University.
- Lewis, M.** (2013, August). Multiple routes to solving the mapping problem. Invited talk presented to University of Edinburgh, Informatics Group, Edinburgh, UK.
- Lewis, M.** & Frank, M. C. (2013, August). An integrated model of concept learning and word-concept mapping. Talk presented at the 35th annual meeting of the Cognitive Science Society, Berlin, Germany.
- Lewis, M.** & Frank, M. C. (2013, August). Modeling disambiguation in word learning via multiple probabilistic constraints. Talk presented at the 35th annual meeting of the Cognitive Science Society, Berlin,

Germany.

Lewis, M. & Watson, D. G. (2013, July). Say it like you mean it: Lexical meaning influences prosody. Talk presented at the Embodied and Situated Language Processing Conference, Potsdam, Germany.

Lewis, M. (2013, May). Modeling disambiguation in word learning via multiple probabilistic constraints. Talk presented at Stanford-Berkeley-Santa Cruz Developmental Psychology Conference, UC Berkeley, Berkeley, California.

Lewis, M. (2012, June). Formalizing the problem of reference. Developmental Brown Bag Series, Department of Psychology, Stanford University.

Lewis, M. & Watson, D. (2011, September). Say it like you mean it: Lexical meaning influences prosody. Talk presented at the annual meeting of Architectures and Mechanisms for Language Processing, Paris, France.

Lewis, M. (2010, November). Saying it like you mean it: Evidence for sound symbolism in language production. Cognitive Brownbag Series, Department of Psychology, University of Illinois at Urbana-Champaign, Champaign, Illinois.

Other Presentations

Tsuji, S., Bergmann, C., Cristia, A., **Lewis, M.**, Braginsky, M., & Frank, M. C. (January 2016). MetaLab: Power Analysis and Experimental Planning in Developmental Research Made Easy. Poster at the 2015 Budapest CEU Conference on Cognitive Development. Budapest, Hungary.

Lewis, M. & Frank, M. C. (2014, October). The length of words reflects cognitive complexity. Lightning talk presented at the Stanford Psychology Colloquium Series, Department of Psychology, Stanford University.

Lewis, M. & Frank, M. C. (2015, March). A meta-analytic approach to understanding the disambiguation effect. Poster presented at the 2015 Biennial Meeting of the Society for Research in Child Development, Philadelphia, Pennsylvania.

Lewis, M. (2013, September). Modeling disambiguation in word learning via multiple probabilistic constraints. Poster presented at Machine Learning Summer School, Tübingen, Germany.

Lewis, M. (2012, September). An integrative model for word-concept mapping. Lightning talk presented at Bay Area Bayesians, UC Berkeley.

Professional Activities and Service

Student Representative, Graduate Admissions Committee, 2014-2015

Co-organizer of Stanford Developmental Talk Series, 2013-2014

Student Representative, Faculty Search Committee, 2012-2013

Peer reviewer for Proceedings of the Annual Meeting of the Cognitive Science Society, 2012 - 2015

Teaching and Advising

Teaching Assistant, Introduction to Symbolic Systems (Instructors: Dan Lassiter and Thomas Icard), fall 2015

Co-Head Teaching Assistant, Introduction to Statistical Methods: Precalculus (Instructor: Ewart Thomas), winter 2015

Co-Primary Instructor, Language and Thought, summer 2014

Guest lecture, Introduction to Developmental Psychology (Instructor: Michael C. Frank), spring 2014

Teaching Assistant, Introduction to Statistical Methods: Precalculus (Instructor: Ewart Thomas), winter 2013

Teaching Assistant, Introduction to Developmental Psychology (Instructor: Michael C. Frank), fall 2012, spring 2014

Center for Study of Language and Information, intern workshop on the meta-analysis method, summer 2015

Mentor, Raising Interest in Science and Engineering, summer internship for high school students, Mia Kirkendoll (summer 2012), Liza Benabbas (summer 2013), Marlene Ade (summer 2015)

Undergraduate mentor, Ben Morris (Reed College; summer 2014), Allison Durkin (Yale University; summer 2015), Andres Camperi (Stanford University; summer 2015)

Undergraduate thesis advisor, Elise Sugarman, 2013-2014

Last updated: January 15, 2016