

Richard Landy Jones Futrell

3151 Social Science Plaza B #2215
University of California, Irvine 92697-5100
U.S.A.

Github: [Futrell](#)
Twitter: [rljfutrell](#)
email: rfutrell@uci.edu
URL: <http://socsci.uci.edu/~rfutrell/>

Academic Employment

2018–present *Assistant Professor*, Department of Language Science, UC Irvine
2017–2018 *Postdoctoral Associate*, Department of Brain and Cognitive Sciences, MIT

Education

2017 PhD in Cognitive Science, Massachusetts Institute of Technology
2012 MA in Linguistics, Stanford University
2010–2011 Inter-University Program for Chinese Language Study, Tsinghua University, Beijing
2010 BA in Linguistics, with Honors, with Distinction, Stanford University

Non-Academic Employment

2013–2014 Intern, Siri Advanced Development Group. Apple, Inc. Cupertino, CA and then Cambridge, MA.
2012 Computational Linguistics Intern. Wordnik, Inc. San Mateo, CA.

Grants, honors & awards

2017 NVIDIA GPU Grant
2016 Angus MacDonald Award for Excellence in Undergraduate Teaching, MIT Department of Brain & Cognitive Sciences
2015 NSF Doctoral Dissertation Research Improvement Grant. \$11,000
2011 Fellowship at Summer Institute of the Linguistic Society of America
2010 Robert M. Golden Award for Outstanding Undergraduate Thesis, Stanford University
2010 Phi Beta Kappa
2010 DAAD Graduate Study Fellowship at the Max Planck Institute for Evolutionary Anthropology (declined)
2009 Summer Language Study Grant, Stanford Center for Russian, Eastern European, and Eurasian Studies. \$2000
2008 Summer Research Grant, Stanford Vice Provost for Undergraduate Education. \$5600
2006 National Merit Scholar

Papers

PEER-REVIEWED JOURNAL ARTICLES

- 2018 Rachel Ryskin, **Richard Futrell**, Swathi Kiran, and Edward Gibson. Comprehenders model the nature of noise in the environment. *Cognition* 181: 141–150.
- 2017 Edward Gibson, **Richard Futrell**, Julian Jara-Ettinger, Kyle Mahowald, Leon Bergen, Sivalogeswaran Ratnasingam, Mitchell Gibson, Steven T. Piantadosi, and Bevil R. Conway. Color naming across languages reflects color use. *Proceedings of the National Academy of Sciences* 114(40): 10785–10790.
- 2017 Edward Gibson, Caitlin Tan, **Richard Futrell**, Kyle Mahowald, Lars Konieczny, Barbara Hemforth, and Evelina Fedorenko. Don't underestimate the benefits of being misunderstood. *Psychological Science*: 1–10.
- 2017 **Richard Futrell**, Adam Albright, Peter Graff, and Timothy J. O'Donnell. A generative model of phonotactics. *Transactions of the Association for Computational Linguistics* 5: 73–86.
- 2016 Kyle Mahowald, Ariel James, **Richard Futrell**, and Edward Gibson. A meta-analysis of syntactic priming in language production. *Journal of Memory and Language* 91: 5–27.
- 2016 **Richard Futrell**, Laura Stearns, Daniel L. Everett, Steven T. Piantadosi, and Edward Gibson. A corpus investigation of syntactic embedding in Pirahã. *PLOS ONE* 11(3): e0145289.
- 2015 **Richard Futrell**, Kyle Mahowald, and Edward Gibson. Large-scale evidence of dependency length minimization in 37 languages. *Proceedings of the National Academy of Sciences* 112(33): 10336–10341.
- 2015 **Richard Futrell**, Tina Hickey, Aldrin Lee, Elena Luchkina, and Edward Gibson. Cross-linguistic gestures reflect typological universals: A subject-initial, verb-final bias in speakers of diverse languages. *Cognition* 136: 215–221.

REFEREED CONFERENCE PROCEEDINGS

- 2019 **Richard Futrell** and Roger Levy. Do RNNs learn human-like abstract word order preferences? In *Proceedings of the Society for Computation in Linguistics*, New York. Pages 50–59.
- 2018 Ethan Wilcox, Roger Levy, Takashi Morita, and **Richard Futrell**. What do RNN language models learn about filler–gap dependencies? In *Proceedings of BlackboxNLP 2018*, Brussels. Pages 211–221.
- 2018 Michael Hahn, Judith Degen, Noah Goodman, Dan Jurafsky, and **Richard Futrell**. An information-theoretic explanation of adjective ordering preferences. In *Proceedings of the 40th Annual Meeting of the Cognitive Science Society (CogSci)*.
- 2018 **Richard Futrell**, Edward Gibson, Hal Tily, Idan Blank, Anastasia Vishnevetsky, Steven T. Piantadosi, and Evelina Fedorenko. The Natural Stories Corpus. In *Proceedings of the Language Resource Evaluation Conference (LREC) 2018*, Miyazaki, Japan.
- 2017 Melody Dye, Petar Milin, **Richard Futrell**, and Michael Ramscar. Cute little puppies and nice cold beers: An information theoretic analysis of prenominal adjectives. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*, London, UK. Winner of the Marr Prize for Best Student Paper.
- 2017 **Richard Futrell** and Roger Levy. Noisy-context surprisal as a human sentence processing cost model. In *Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics*, Valencia, Spain. Pages 688–698.
- 2016 Cory Shain, Marten van Schijndel, **Richard Futrell**, Edward Gibson and William Schuler. Memory access during incremental sentence processing causes reading time latency. In *Proceedings of COLING Workshop “Computational Linguistics for Linguistic Complexity”*.
- 2015 **Richard Futrell** and Edward Gibson. Experiments with generative models for dependency tree linearization. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Pro-*

cessing, Lisbon, Portugal. Pages 1978–1983.

2015 **Richard Futrell**, Kyle Mahowald, and Edward Gibson. Quantifying word order freedom in dependency corpora. In *Proceedings of the Third International Conference on Dependency Linguistics (DepLing 2015)*, Uppsala, Sweden. Pages 91-100.

2014 Michael Ramscar, Asha Halima Smith, Melody Dye, **Richard Futrell**, Peter Hendrix, Harald Baayen, and Rebecca Starr. The ‘universal’ structure of name grammars and the impact of social engineering on the evolution of natural information systems. *Proceedings of the 35th Meeting of the Cognitive Science Society*, Berlin, Germany.

IN EDITED VOLUMES

2017 Melody Dye, Petar Milin, **Richard Futrell**, and Michael Ramscar. A functional theory of gender paradigms. In F. Kiefer, J.P. Blevins, & H. Bartos (Eds.) *Morphological Paradigms and Functions*. Brill: Leiden.

2015 Stephanie Shih, Jason Grafmiller, **Richard Futrell**, & Joan Bresnan. Rhythm’s role in the genitive construction choice in spoken English. In Vogel, R. and R. van de Vijver (ed). *Rhythm in phonetics, grammar, and cognition*. Berlin, Germany: De Gruyter Mouton. 208–234.

NON-PEER-REVIEWED JOURNAL ARTICLES

2017 **Richard Futrell**, Roger Levy, and Edward Gibson. Generalizing dependency distance: Comment on “Dependency distance: A new perspective on syntactic patterns in natural languages” by Haitao Liu et al. *Physics of Life Reviews* 21: 197–199.

2016 **Richard Futrell** and Edward Gibson. L2 processing as noisy channel language comprehension. *Bilingualism: Language and Cognition*. (An invited response to Cunnings (2016))

2015 **Richard Futrell**, Kyle Mahowald, and Edward Gibson. Response to Liu, Xu, and Liang (2015) and Ferrer-i-Cancho and Gómez-Rodríguez (2015) on dependency length minimization. *Glottometrics* 33: 39–44.

OTHER PUBLICATIONS

2010 Translation of *The Key*, by Dezsó Kosztolányi, from Hungarian. *Inventory* 1.

THESES

2017 *Memory and Locality in Natural Language*. Massachusetts Institute of Technology: PhD Thesis.

2012 *Processing Effects of the Expectation of Informativity*. Stanford University: MA Thesis.

2010 *German Grammatical Gender as a Nominal Protection Device*. Stanford University: Senior Thesis. (Robert M. Golden Award)

MANUSCRIPTS

2018 **Richard Futrell**, Ethan Wilcox, Takashi Morita, and Roger Levy. RNNs as psycholinguistic subjects: Syntactic state and grammatical dependency. *arXiv* abs/1809.01329.

2017 **Richard Futrell**, Roger Levy, and Matthew Dryer. A statistical comparison of some theories of NP word order. *arXiv* abs/1709.02783.

2012 **Richard Futrell** & Samuel Bowman. Measuring amok. Term paper for Stanford CS 224U (Natural Language Understanding).

2011 **Richard Futrell**. And the context shall set you free: Bleaching as blocking in a discrimination learning model of the grammaticalization of English *going-to-V* future. Term paper for Stanford Ling 262 (Constructionalization).

2010 **Richard Futrell**. A Corpus Investigation of Information-Structural Constraints on Filler-Gap Dependencies. Term paper for Stanford Ling 222B (Syntactic Theory).

Conference Presentations

- 2018 Michael Hahn and **Richard Futrell**. Testing processing explanations of word order universals. Talk presented at California Meeting on Psycholinguistics (CAMP) 2018. Los Angeles, CA.
- 2018 Michael Hahn, **Richard Futrell**, Judith Degen, Dan Jurafsky, and Noah Goodman. Mutual information impacts adjective ordering across languages. Poster presented at the 31st CUNY Conference on Human Sentence Processing. Davis, CA.
- 2018 **Richard Futrell**, Edward Gibson, and Roger Levy. Generalizing dependency length minimization: Crosslinguistic corpus evidence for information locality. Poster presented at the 31st CUNY Conference on Human Sentence Processing. Davis, CA.
- 2018 Cory Shain, **Richard Futrell**, Marten van Schijndel, Edward Gibson, William Schuler, and Evelina Fedorenko. Evidence of semantic processing difficulty in naturalistic reading. Poster presented at the 31st CUNY Conference on Human Sentence Processing. Davis, CA.
- 2018 Michael Hahn, **Richard Futrell**, and Judith Degen. Exploring adjective ordering preferences via artificial language learning. Poster presented at the 31st CUNY Conference on Human Sentence Processing. Davis, CA.
- 2017 Cory Shain, Marten van Schijndel, **Richard Futrell**, Edward Gibson, and William Schuler. Memory access during incremental sentence processing causes reading time latency. Presented at the 30th Annual CUNY Conference on Human Sentence Processing. Cambridge, MA.
- 2017 **Richard Futrell** and Roger Levy. Noisy-context surprisal as a human sentence processing cost model. Presented at the 30th Annual CUNY Conference on Human Sentence Processing. Cambridge, MA.
- 2016 Kyle Mahowald, Ariel James, **Richard Futrell**, and Edward Gibson. A meta-analysis of syntactic priming. Presented at the 29th Annual CUNY Conference on Human Sentence Processing. Gainesville, FL.
- 2016 **Richard Futrell**, Adam Albright, Peter Graff, and Timothy J. O'Donnell. Subsegmental structure facilitates learning of phonotactic distributions. Presented at the 2016 Annual Meeting of the Linguistic Society of America. Washington, DC.
- 2014 **Richard Futrell**, Kyle Mahowald, and Edward Gibson. CLIQS: Crosslinguistic Investigations in Quantitative Syntax. Poster presented at AMLaP 2014.
- 2014 **Richard Futrell**, Tina Hickey, Aldrin Lee, Elena Luchkina, & Edward Gibson. A Cross-Linguistic Verb-Final Bias in Gesturing Paradigms. Presented at the 27th Annual CUNY Conference on Human Sentence Processing. Columbus, OH.
- 2014 **Richard Futrell**, Kyle Mahowald, Steven Piantadosi, & Edward Gibson. Efficient Communication Forward and Backward. Poster presented at the 27th Annual CUNY Conference on Human Sentence Processing. Columbus, OH.
- 2012 **Richard Futrell** & Hannah Rohde. Expecting the unexpected: How discourse expectations can reverse predictability effects in reading time. Poster presented at the 25th Annual CUNY Conference on Human Sentence Processing. CUNY Graduate Center.
- 2012 **Richard Futrell** & Michael Ramscar. German grammatical gender contributes to communicative efficiency. Presented at the 86th Annual Meeting of the Linguistic Society of America. Portland, OR.
- 2011 **Richard Futrell** & Michael Ramscar. German grammatical gender manages nominal entropy. Poster presented at the Workshop on Information-Theoretic Approaches to Linguistics. University of Colorado, Boulder.
- 2011 Michael Ramscar & **Richard Futrell**. The predictive function of prenominal adjectives. Poster presented at the Workshop on Information-Theoretic Approaches to Linguistics. University of Colorado, Boulder.
- 2009 Stephanie Shih, Jason Grafmiller, **Richard Futrell**, & Joan Bresnan. Rhythm's role in the genitive construction choice in spoken English. Presented at 31st Annual Meeting of the Deutsche Gesellschaft für Sprachwissenschaft: Rhythm beyond the word. Osnabruck, Germany.

- 2009 Laura Staum Casasanto, **Richard Futrell**, & Ivan A. Sag. Parallels between production and comprehension of multiple that: What's good for the goose... Poster presented at the 22nd Annual CUNY Conference on Sentence Processing, UC Davis.
- 2008 Laura Staum Casasanto, **Richard Futrell**, & Ivan A. Sag. Extra complementizers increase syntactic predictability. Poster presented at the 14th Annual Conference on Architectures and Mechanisms for Language Processing, Cambridge, UK.

Invited Presentations

- 2018 Natural language as a code: Modeling human language using information theory. AI and Machine Learning Seminar, UC Irvine, 11/26/2018.
- 2018 Information locality: An information-theoretic principle of natural language word order. Conference on Quantitative Approaches to Language Science, UC Irvine, 5/4/2018.
- 2018 How Natural Language Wants to be Understood: Language processing in humans and machines. Siri Data Science Group, Apple, Inc., 4/12/2018.
- 2018 Information Locality: An information-theoretic principle of natural language word order. Language and Cognition Lab, UC Berkeley, 4/6/2018.
- 2018 Memory and locality in natural language. Cognition and Language Workshop, Stanford University, 4/5/2018.
- 2018 Memory and locality in natural language. Harvard Language & Cognition, Language Development Lab, 2/20/2018.
- 2018 Memory and locality in natural language. Boston College Language Learning Laboratory, 1/26/2018.
- 2017 Memory and locality in natural language. Brown University LingLangLunch, 9/27/2017.
- 2017 A generative model of phonotactics. MIT Workshop on Simplicity in Grammar Learning, 9/23/2017.
- 2017 Memory and locality in natural language. University of Arizona Linguistics Colloquium, 9/15/2017.
- 2017 Information locality in natural language. Workshop on the Relationship between Executive Functions and Language Processing, MIT, 5/25/2017.
- 2017 Memory and locality in natural language. UC Irvine Language Sciences Colloquium, 2/6/2017.
- 2017 Memory and locality in natural language. MIT Computation & Language Discussion Group Meeting, 2/2/2017.
- 2016 Memory and locality in natural language. MIT CogLunch, 11/8/2016.
- 2016 Crosslinguistic investigations in quantitative syntax: Dependency length minimization and beyond. Edinburgh Center for Language Evolution Colloquium, 5/17/2016.
- 2015 A generative model of phonotactics. MIT Spoken Language Systems Seminar, 4/7/2015.
- 2014 Crosslinguistic investigations in quantitative syntax. Talk at Stanford University Department of Linguistics, 8/12/2014.
- 2014 A tier-based probabilistic phonotactics model. MIT Phonology Circle, 5/5/2014.
- 2014 Efficiency and robustness in word order universals. MIT CogLunch, 4/1/2014.

Academic Service

- 2018- Chair of UC Postdoctoral Fellows Recruitment Committee, Department of Language Science, UC Irvine
- 2016-2018 Organizer, MIT Language & Computation Discussion Group [\[WEBSITE\]](#)
- 2016-2017 Member of Organizing Committee, 2017 CUNY Conference on Human Sentence Processing [\[WEBSITE\]](#)
- 2018 Reviewer for Entropy; Cognition (twice); NAACL-HLT; EMNLP; CUNY Sentence Processing Conference; COLING; Glossa; Lingua; Language, Cognition and Neuroscience; CogSci conference;

Journal of the Royal Society Interface; Computational Linguistics; Journal of Germanic Linguistics; SCiL
2017 Reviewer for Journal of Experimental Psychology: General; SCiL; CoNLL; CogSci conference; PLOS ONE; Australian Journal of Linguistics; Neural Networks; Cognitive Science
2016 Reviewer for Cognitive Science; CogSci conference; PLOS ONE.

Teaching experience

2019 Instructor, Introduction to Linguistics (UCI Ling 3).
2018 Instructor, Language Processing (UCI Ling 159).
2018 Teaching Assistant, Computational Psycholinguistics (MIT 9.19). Main instructor: Roger Levy.
2016 Teaching Assistant, Cognitive Science (MIT 9.012). Main instructors: Pawan Sinha, Josh Tenenbaum, and Edward Gibson.
2015 Teaching Assistant, Lab in Psycholinguistics (MIT 9.59). Main instructor: Edward Gibson.
2014 Teaching Assistant, Cognitive Processes (MIT 9.65). Main instructor: Molly Potter.

Natural Languages

Conversant in: English, German, Mandarin (HSK 7), Spanish, Hungarian

Programming Languages

Python, Scheme, R, Julia, Haskell, Java, C++, perl