

# Grounding Language Acquisition in Intuitive Theories and Event Cognition

**Eva Wittenberg (ewittenberg@ucsd.edu)**

Department of Linguistics, University of California, San Diego  
9500 Gilman Dr., La Jolla, CA 92093-0108 USA

**Melissa Kline (mekline@mit.edu)**

Department of Psychology, Harvard University  
33 Kirkland St., Cambridge, MA 02138 USA

**Joshua K. Hartshorne (joshua.hartshorne@bc.edu)**

Department of Psychology, Boston College  
140 Commonwealth Ave, Chestnut Hill, MA 02467

**Keywords:** language; language acquisition; concepts; event cognition; cognitive development; intuitive theories; argument structure

## Introduction

Language is a powerful tool for moving thoughts from the head of one person to another. Thus, any theory of language must make contact with theories of thought and conceptual representation. Any theory of language acquisition must explain how children link words to concepts, whether those concepts were pre-existing or created during the process of language acquisition. Conversely, theories of conceptual representation are constrained by the need to support language and language acquisition. Indeed, there is a rich tradition of cognitive science research that explicitly tackles these issues (?, ?, ?).

Right now is a particularly opportune time to assess our current understanding of how language acquisition might be grounded in thought – particularly focusing beyond the better-explored domains of objects and kinds to events. Recent years have seen the emergence of a robust psychological literature and event representations (?, ?). There has likewise been explosive growth in work on concepts within the “intuitive theory” or “Theory Theory” framework (?, ?, ?). On such accounts, concepts are embedded in robust theories – much like the theories used by scientists – and derive their meaning from their role in those theories. Importantly, our growing understanding of concepts is not limited to mature representations: Work on infant and child conceptual representations has been particularly productive (?, ?, ?, ?).

Language research has similarly seen rapid progress. In this workshop, we focus in particular on verbs. Linguists now have well-specified, articulated theories of the semantics of verbs, which is necessarily (part of) a theory of event representation (?, ?, ?). Importantly, there is now increasingly strong evidence for their psychological reality and role in language acquisition (?, ?; Hartshorne et al., in press). While these theories bear certain similarities to the infant cognition work (e.g., representations of agency, intentionality, and causation play a key role), in other ways they diverge (e.g., they have no clear analog to an intuitive theory).

This workshop brings language acquisition researchers together with experts in event cognition, intuitive theories, and cognitive development in order to try to understand how the developments in these disparate-yet-linked fields inform one another. Because language must make contact with thought – otherwise, how do we communicate – it is likely that the achievements of one field will inform the others, and it must be the case that any discrepancies between fields can be ultimately resolved. Given the necessarily interdisciplinary nature of this discussion, the Annual Meeting of the Cognitive Science Society is an ideal venue for these conversations.

## Goals and Scope

FUBAR

## Workshop Organization

The workshop will be organized around a set of thirty-minute presentations (including Q&A). The presentations will range from theoretical overviews to detailed discussion of specific phenomena. Interspersed coffee breaks will help spur discussion about promising avenues for future research and help build a common vocabulary and agenda.

## Workshop Organizers

**Eva Wittenberg** is

**JH:** Please blurb

. **Melissa Kline** is

**JH:** please blurb

. **Joshua K. Hartshorne** is an assistant professor of Psychology at Boston College. His work focuses on the interaction between conceptual and linguistic representations in both processing and acquisition (Hartshorne et al., in press; Hartshorne, O'Donnell, & Tenenbaum, 2015).

## Target Audience

The target audience for this workshop overlaps significantly with the target audience of CogSci. The workshop's central themes (language acquisition and conceptual representation) have long been central concerns of the Society and are typically well-represented at its meetings. Moreover, our spe-

cific focus on event representations dovetails this year's overall conference theme: "Recognizing and representing events: Integrating psychological, linguistic, computational and neural perspectives."

Moreover, the workshop approaches these themes from a multidisciplinary perspective, as seen in the disciplinary diversity of the participants. Because the presentations will be geared towards an interdisciplinary audience, they should be approachable by a broad cognitive science audience.

## Acknowledgments

**JH:** Melissa and Eva: List funding. I don't think we have anyone to thank. My funding right now is start-up, which isn't usually acknowledged.

## References

- Ambridge, B., Pine, J. M., Rowland, C. F., Chang, F., & Bidgood, A. (2013). The retreat from overgeneralization in child language acquisition: Word learning, morphology, and verb argument structure. *Wiley Interdisciplinary Reviews Cognitive Science*, 4, 47-62.
- Battaglia, P., Hamrick, J., & Tenenbaum, J. B. (2013). Simulation as an engine of physical scene understanding. *Proceedings of the National Academy of Sciences*, 110, 18327-18332.
- Bowerman, M. (1989). Learning a semantic system: What role do cognitive predispositions play? In M. L. Rice & R. L. Schiefelbusch (Eds.), *The teachability of language*. Baltimore: Brooks.
- Clark, E. V. (2004). How language acquisition builds on cognitive development. *Trends in Cognitive Sciences*, 8, 472-478.
- Gopnik, A., & Wellman, H. M. (in press). Reconstructing constructivism: Causal models, bayesian learning mechanisms, and theory theory. *Psychological Bulletin*.
- Hartshorne, J. K., O'Donnell, T. J., Sudo, Y., Uruwashii, M., Lee, M., & Snedeker, J. (in press). Psych verbs, the linking problem, and the acquisition of language. *Cognition*.
- Hartshorne, J. K., O'Donnell, T. J., & Tenenbaum, J. B. (2015). The causes and consequences explicit in verbs. *Language, Cognition, & Neuroscience*, 30, 716-734.
- Hernik, M., & Csibra, G. (2015). Infants learn enduring functions of novel tools from action demonstrations. *Journal of Experimental Child Psychology*, 130, 176-192.
- Jara-Ettinger, J., Gweon, H., Tenenbaum, J. B., & Schulz, L. E. (in press). Children's understanding of the costs and rewards underlying rational action. *Cognition*.
- Levin, B., & Hovav, M. R. (Eds.). (2005). *Argument realization*. Cambridge, UK: Cambridge University Press.
- Levin, B., & Hovav, M. R. (2011). Lexical conceptual structure. In K. von Steussinger, C. Maienborn, & P. Portner (Eds.), *Semantics: An international handbook of natural language meaning i*. Berlin: Mouton de Gruyter.
- Pinker, S. (Ed.). (1989). *Language and cognition: The acquisition of argument structure*. Cambridge, MA: MIT Press.
- Radvansky, G. A., & Zacks, J. M. (Eds.). (2014). *Event cognition*. New York: Oxford University Press.