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# Learning to Talk about Events

## Grounding Language Acquisition in Intuitive Theories and Event Cognition

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### Introduction

Language is a powerful tool for moving thoughts from the mind 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 (Clark, 2004; Bowerman, 1989).

This is an 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 include concepts whose nature may differ drastically from these. Events, which (at a minimum) require specifying how an activity and one or more participants are related to each another, are a central instance of such concepts. Recent years have seen the emergence of a robust psychological literature on event representations (Tversky & Zacks, 2013). There has likewise been explosive growth in “intuitive theory” or “Theory Theory” approaches to conceptual representation (Gopnik & Wellman, in press; Hartshorne, O’Donnell, & Tenenbaum, 2015; Goodman, Ullman, & Tenenbaum, 2011; Battaglia, Hamrick, & Tenenbaum, 2013). On such accounts, particular concepts are embedded in robust theories and derive their meaning from their roles in those theories. Importantly, our growing understanding of concepts and conceptual relations is not limited to mature representations: Work on infant and child conceptual representations has been particularly productive (Gopnik & Wellman, in press; Jara-Ettinger, Gweon, Tenenbaum, & Schulz, in press; Hernik & Csibra, 2015).

Language research has also seen a flourishing of theories of concepts. Linguists now have well-specified, articulated theories of the semantics of verbs that draw on structured repre-

sentations of events and other abstract concepts (Levin & Rapaport Hovav, 2011, 2005). There is now increasingly strong evidence for the psychological reality of these structures and their role in language acquisition (Ambridge, Pine, Rowland, Chang, & Bidgood, 2013; 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 key roles in both), in other ways they diverge (e.g., the latter do not have a clear analog to an intuitive theory).

This workshop brings linguists and language acquisition researchers together with experts in event cognition and cognitive development in order to understand how these independent but linked fields inform one another. Because language makes direct contact with thought (and vice versa) it is likely that the achievements of one field will inform the others, and discrepancies between fields must ultimately be resolved to adequately explain phenomena in both areas. Given the interdisciplinary nature of this discussion, the Annual Meeting of the Cognitive Science Society is an ideal venue.

### Goals and Scope

This workshop brings together leading researchers in the language and cognition of concepts and events – both as speakers and as audience members – in order to share knowledge, discuss open research questions of mutual concern, and shape the path forward. Precisely because questions about the representation of concepts and events are so broadly applicable across the cognitive sciences, they tend to be studied fairly independently in multiple different (sub)disciplines. Thus, gatherings like this one are crucial for ensuring efficient dissemination of ideas and findings.

The workshop is organized around language acquisition, particularly the acquisition of verbs. This will help focus discussion without necessarily sacrificing breadth: Verb acquisition presents a particularly rich set of phenomena touching upon issues of central concern to the disparate concepts and events literatures. To these ends, the workshop speakers represent diverse research traditions and topics, and many have contributed to multiple of these literatures.

Beth Levin, Joshua Hartshorne, and Eva Wittenberg will

discuss insights into event representations that stem from investigation of **linguistic structure**. Cynthia Fisher, Joshua Hartshorne, and Melissa Kline will discuss the grounding of **verb acquisition** in event representations, and Noah Goodman will discuss his work grounding language processing more generally in conceptual representations. Beyond this, many of the talks will focus squarely on conceptual and event representations. Many speakers will discuss recent work on **infant and child cognition**, especially Dare Baldwin and Gergely Csibra. Barbara Tversky and Jeffrey Zacks will discuss **event perception and segmentation**, and the potential role of **intuitive theories** will be discussed by Noah Goodman and Joshua Tenenbaum.

All speakers will endeavor to draw out connections between the different lines of research. Question periods and discussion during coffee breaks will allow participants and attendees to synthesize the different literatures, generating future directions for research.

### Workshop Organization

The workshop will be organized around short presentations by speakers ranging from theoretical overviews to detailed discussion of specific phenomena. A final panel featuring all speakers will finish the day, with the goal of spurring discussion about promising avenues for future research and building a common vocabulary and agenda. Presentations will be geared towards an interdisciplinary audience and should be approachable by a broad cognitive science audience.

### Workshop Organizers

**Eva Wittenberg** is a postdoctoral researcher in the Departments of Linguistics and Psychology at UCSD. Her research focuses on how the mind assembles meaning and how that capacity came to be. **Melissa Kline** is a postdoctoral researcher in the Harvard Psychology department studying how babies' and young children's cognitive representations of events relate to verb meaning and argument structure. **Joshua K. Hartshorne** is an assistant professor of Psychology at Boston College. His work focuses on the interaction between conceptual and linguistic representations.

### 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) are central concerns of the Society and are typically well-represented at its meetings. The multidisciplinary nature of the work is particularly appropriate for a multidisciplinary conference like CogSci. Finally, our specific focus dovetails this year's overall conference theme: "Recognizing and representing events: Integrating psychological, linguistic, computational and neural perspectives."

### Confirmed Speakers

**Dare Baldwin**, University of Oregon  
**Gergely Csibra**, Central European University

**Cynthia Fisher**, University of Illinois, Urbana-Champaign  
**Noah Goodman**, Stanford University  
**Joshua Hartshorne**, Boston College  
**Melissa Kline**, Harvard University  
**Beth Levin**, Stanford University  
**Josh Tenenbaum**, Massachusetts Institute of Technology  
**Barbara Tversky**, Columbia University  
**Eva Wittenberg**, University of California, San Diego  
**Jeff Zacks**, Washington University in St. Louis

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