Speaker: Lisa Pearl  
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Title: At the Interface of Computational Learning Theory and Human Language Learning

Date: Monday, February 12, 2007
Time: 4:00pm
Place: Rosenfeld Hall (corner Temple & Grove Streets)

Abstract:

In this talk, I will explore the mechanism of language acquisition given the boundary conditions provided by linguistic representation and the time course of acquisition. The case studies presented will use computational modeling. The framework I use conceptualizes a language learning theory as three separate components, assuming that learning is the process of selecting the best-fit option given the available data. These components are (1) a defined hypothesis space, (2) defined data intake, and (3) an algorithm that updates the learner's belief in the available hypotheses, based on data intake.

Defining the learning theory in this somewhat abstract manner allows us to apply it to a range of language learning problems and linguistic domains. In addition, we can combine discrete linguistic representations with probabilistic methods. One of the discoveries of this line of work is that acquisition success seems to require that the data intake be a filtered subset of the available input. Moreover, filtering the data intake set can lead to acquisition success even when the learner is faced with a complex, noisy system.