An incremental model of syntactic bootstrapping

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introduction

• Language learners must map lexical units to underlying semantic representations
• Syntactic bootstrapping: learners use syntactic structure to acquire the meanings of novel verbs
• Structure Mapping:
  • children have an innate one-to-one mapping between nouns and semantic arguments
  • they use this information to identify verbs and assign semantic roles to their arguments
• Connor et al. (2012): computational model of syntactic bootstrapping via structure mapping
• Current work: two improvements
  • Incremental learning: predictions are made as soon as the learner receives input
  • Aggregated verb predictions: distributional clusters behave in a grammatically consistent fashion

example

1: papa/57 wants/58 and/6 apple/39
2: get/43 the/27 red/79 bicycle/39
3: come/75 and/6 move/43 horsie/39
4: i/50 forgot/58 a/6 spoon/39
5: you/50 're/25 eating/73 the/6 broom/39

results

NOUN PREDICTIONS (straight lines: batch results)

Verb Predictions

references