

Psych156A/ Ling150
Winter 2009
Review Questions: Words

(1) Terms/concepts to know: syllables, transitional probability, transition probability minimum, word segmentation, psychological plausibility, CHILDES database, precision, recall, algebraic learning, grammatical category, Semantic Bootstrapping Hypothesis, frequent frames

(2) What was Saffran, Aslin, and Newport (1996)'s belief about the relation between transitional probability and word boundaries? That is, when did they believe transitional probability between syllables was likely to be higher and when did they believe it was likely to be lower?

(3) What is the difference between a transitional probability minimum and a low transitional probability? It is possible to have one without the other – explain how.

(4) Why was it necessary for Saffran et al. (1996) to test children on real words vs. part-words from the artificial language? That is, why was the second experiment necessary to make their point about children's ability to track transitional probabilities for word segmentation?

(5) Why doesn't a computational model of a language acquisition process (such as word segmentation) need to include every detail of a child's experience?

(6) What does it mean for a learning algorithm to be psychologically plausible? Why would it be important for a computational model to use a psychologically plausible learning algorithm?

(7) Where did Gambell & Yang (2006) get the input for their model from? Is this a good source of realistic input that a child might hear? Why or why not?

(8) Gambell & Yang found that tracking transitional probabilities failed to reliably segment child-directed speech data. What property of the data set caused the model to fail in Gambell & Yang's (2006) study? Why did this cause the transitional probability model to fail?

(9) What is one problem with the Semantic Bootstrapping Hypothesis?

(10) What considerations about children's memory did the model used by Wang & Mintz (2008) make? (Think about what they were trying to improve on from Mintz (2003)'s study.) How did the model by Wang & Mintz (2008) perform, compared to the study done by Mintz (2003)?

(11) What does it mean if a grammatical categorization model has a high precision score, but a low recall score? That is, is this model likely to correctly identify a word as

belonging to a particular grammatical category? And is this model likely to correctly group all the words of one category together?