

Psych150/ Ling155
Spring 2015
Review Questions: Acquisition

(1) Terms/concepts to know: first language acquisition, second language acquisition, diary studies, CHILDES, MLU, MacArthur-Bates CDIs, elicited production, repetition/imitation elicitation, syntactic priming, Peabody Picture Vocabulary Test, pointing tasks, act-out tasks, intermodal preferential-looking, looking while listening, conditioned head-turn preference procedure, fMRI, NIRS, EEG, grammaticality judgment, truth value judgment, linguistic input, linguistic intake, categorical perception, voice onset time, forced choice identification, tone onset time, complementary distribution, natural class, word segmentation, word form, word-meaning mapping, familiarity preference, novelty preference, switch procedure, minimal pair, mapping problem, fast mapping, cross-situational learning, suspicious coincidence, subordinate, basic, superordinate, syntactic categories, semantic bootstrapping hypothesis, distributional learning, frequent frame, transitive, intransitive, auxiliary verb, syntactic island, non-finite clause, implied subject, implied object, tough-adjectives, animacy

(2) What kind of question about language acquisition are computational investigations typically more suited to address? (Hint: Who, what, where, when, why, how...?)

(3) What is one issue with naturalistic studies, like diary studies that record the spontaneous speech a child produces?

(4) Suppose you look through a selection of CHILDES database speech samples from a two-year-old, and notice that she never uses the word *dragon*. Can you conclude that she doesn't yet know the word *dragon*? Why or why not?

(5) Why does pragmatics matter for experimental design? What is one typical way that elicited production tasks attempt to address this issue, when the goal is to elicit statements? Is there any difference if the goal is to elicit questions?

(6) What is one advantage of using novel test items instead of familiar test items in an experimental investigation? What is one disadvantage?

(7) Why might a comprehension task be better to use for a very young child, instead of a production task?

(8) Why do comprehension tasks generally need more subjects?

(9) What's the purpose of counterbalancing trials in a comprehension task?

(10) What's the main difference between an intermodal preferential-looking and a conditioned head-turn preference procedure? (Hint: Think about the alternate name for the conditioned head-turn preference procedure.)

- (11) Suppose you are interested in exactly when brain activity occurs when processing a certain linguistic structure. Which of the functional neuroimaging methods would be most appropriate? What about if you care more about where brain activity occurs?
- (12) Should you use a grammaticality judgment task or a truth value judgment task if you are interested in whether a certain syntactic structure is acceptable to children? What about if you're interested in whether a certain interpretation is available to children?
- (13) What is one resource that computational modeling studies often use to get an idea of what children's input looks like?
- (14) Is a child's linguistic intake typically smaller or larger than their linguistic input?
- (15) What are some ways that a computational model may attempt to be cognitively plausible?
- (16) Why is it important for a model to be empirically grounded? How does this relate to one of the main disadvantages of computational modeling?
- (17) Suppose there are ten sounds (S1-S10) that differ from each other acoustically. If someone perceives only two distinct sounds (ex: they think S1-S3 sound the same and S4-S10 sounds the same), are they showing categorical perception? What about if they hear five distinct sounds? What about ten distinct sounds?
- (18) At perceptual category boundaries, is it easier or harder to identify a sound as a particular category? Does it take a longer or shorter time to make this decision?
- (19) What is one way that voice onset time differs from pitch and intensity? (Hint: Think about each of these in relation to categorical perception in humans.)
- (20) If two sounds belong to the same perceptual category, are they easy or hard to distinguish from one another? What about if they belong to two different perceptual categories?
- (21) Do infants appear to have categorical perception for voice onset time? How do you know?
- (22) Is categorical perception unique to humans? How do you know? What does this mean for someone arguing that categorical perception is only for brains equipped to process a human language?
- (23) Are language sounds the only sounds that are categorically perceived by infants? What does this mean for someone arguing that categorical perception is a special linguistic ability?

(24) What evidence is there that humans are naturally sensitive to a certain time window when it comes to distinguishing sounds? What is that time window? How does it relate to where the VOT category boundary typically is for many human languages?

(25) Do infants distinguish more or fewer sounds than adults? How do you know?

(26) If sounds are used in complementary distribution, do infants think they're allophones of the same phoneme or distinct phonemes? What evidence do we have that infants are sensitive to this cue about phonemic categories? (Hint: Think about the White et al. (2008) study.)

(27) What kind of sounds do 9-month-olds prefer to be allophones? How do you know? (Hint: Think of the Saffran & Thiessen (2003) study. Do infants always use complementary distribution to determine that two sounds are allophones? What stops them?)

(28) Why can infants not rely on natural breaks in speech to identify words?

(29) What can adults use to disambiguate speech streams that sounds the same but in fact are segmented differently? (Ex: "The sky is falling" vs. "This guy is falling.") Why can't infants use this same strategy?

(30) What is the difference between a familiarity preference and a novelty preference? Do infants always display one or the other? How does the Goldilocks effect relate to these preferences?

(31) What is the difference between forward and backward transitional probability?

(32) Can infants younger than a year old use statistical cues like transitional probability to segment speech? How young are they when they are first sensitive to transitional probability information?

(33) In the Stager & Werker (1997) study, were younger or older the infants the ones who had trouble distinguishing between minimal pairs in certain cases? Why did Stager & Werker believe that might be? (Hint: *What did word-meaning mapping have to do with it?*)

(34) What was a main difference between the Stager & Werker (1997) stimuli and the Fennell & Waxman (2010) stimuli? Under what conditions were 14-month-olds able to discriminate minimal pairs in the Fennell & Waxman (2010) task?

(35) Which basic question (which referent or what level of specificity) can fast mapping help children figure out? Why might this be a problematic strategy for the real world? (Hint: Think about how many objects are in an average scene a child is looking at when they hear a word they don't know the meaning of.)

(36) Does cross-situational learning require that a particular scene unambiguously indicate what a word's referent is? Can both adults and young children do cross-situational learning? Does cross-situational learning suffer from a similar problem to fast mapping?

(37) Is the representation of a scene that we see in a photograph necessarily the same way that a child views the scene? (Hint: Think about whether everything in a picture is salient to the child.)

(38) How do suspicious coincidences help narrow down the meaning of a novel word? Are children sensitive to suspicious coincidences?

(39) Why can't semantic bootstrapping work for learning what all words of a language mean? (Hint: Does it ever make wrong predictions? When?)

(40) Do frequent frames tend to group together words of the same category in a precise way (ex: the group consists all of nouns)? Do they tend to group together all the words of the same category (ex: all the nouns in the language)?

(41) Are frequent frames a successful strategy, even if the learner has cognitive limitations like a limited, imperfect memory?

(42) Are very young children able to use frequent frame information to cluster words together? How do you know?

(43) Sometimes, children overgeneralize a pattern that they have inferred from their linguistic input. What kind of naturalistic data can reveal their overgeneralizations?

(44) What kind of errors do young children make when learning about how to form complex yes/no questions in English that involve a main clause and an embedded clause? What error do young children *not* make? How does this support the idea that children prefer structure-dependent rules for how to put words together?

(45) If a dependency crosses a syntactic island (that is, the gap is inside a syntactic island structure), is the dependency grammatical or ungrammatical?

(46) How do we know that children as young as three years old believe that dependencies can't cross wh-islands?

(47) Does children's input consist mostly of very simple, short dependencies or is it evenly distributed across both simple and complex dependencies? What evidence do we have?

(48) How do we know that animacy of the subject could be a useful cue to children when interpreting adjectives like *tough*? (Hint: What does their input look like?)

(49) What kind of subject (animate or inanimate) seems particularly helpful to children who are learning how to interpret *tough*-adjectives? What experimental evidence do we have about this?