**MOODLE**

**HEARING SOUNDS and DISCOVERING WORDS**

**Review:**

1. **INITIAL LEARNING: HEARING and JOINING in ATTENTION**

* ***natural perceptual bias*** *– universals of sound physics and perception*
* *suprasegmentals of tone, stress, pitch and intonation help babies distinguish among languages, 0-6 months*
* *learning proceeds along with memory-improving and storing sounds and sound bundles*
* *hearing becomes biased in favor of mother language within 6-12 months*
* *sound perception is generalized in favor of mother language phonemes*

*English develops a bias for consonant voicing vs. Mandarin*

*English develops a bias for R and L vs. Korean*

= “dramatic learning” and “perceptual reorganization” over the 1st year of life (prior to mapping SOUNDS onto MEANINGS in learning words)

* *transitional probability and phonotactic constraints help to identify* ***word boundaries***
* *anchor words support recognizing the sound bundles that precede and follow*
* *initial learning is followed by gaining the naming insight/understanding concepts and growing vocabulary*
* *initial learning is followed by rule-learning*
* *initial learning is followed by articulating*

vs. II. CATEGORICAL PERCEPTION = the efficient way of hearing language sounds;

motor-sensory sound production and perception doesn’t yet imply pairing with language meanings

III. That babies can memorize stable but meaningless sound clusters doesn’t imply they gradually learn meanings to pair them with. How come?

Sound bundles heard yield mind representations = fuzzy **holistic** impressions of the sound bundles (rather than precise sound clusters w. phonetic detail stored as heard) that serve as “containers for meaning“

vs. ability to discriminate sounds in detail

14-mo olds confuse sounds if heard in unfamiliar/rare words

e.g. *líf – neem* vs. *bih – dih* where they **hear** but **ignore** the difference

* Babies’ “lexical representations” depend on how mature is their memory: children learn that “small” differences count in differentiating meanings (*bad* vs. *dad*).

**IV. Matching words to meanings** is difficult: experiment w. 17-mo-olds p. 150

Familiarization phase – listening to labels and seeing objects

Phase 2: switch task – in which cases did babies spot mislabeling?

Limited sense of what words are for: Cognitive maturation enables the “naming insight“: words aren’t facts or numbers to be memorized

**According to what cues do babies form conceptual categories?**

1. Prominence and stability of OBJECTS
2. Learning through ASSOCIATION supported by REFERENTIAL INTENT of looking, pointing, etc. = filter for learning and associating

Tomasello’s experiment

Words cue babies’ attention to concepts that words represent

1. MUTUAL EXCLUSIVITY bias based on the assumption of 1 word per object p. 165

2 pictures & 2 words: since I know that the one object is a hammer, the other must go by the other word that I don’t know yet

* Adults’ guessing of meaning happens through associations and expectation abt what the other speaker is likely saying or thinking:

hammer can go by all sorts of names but since the most natural name for it was used it must apply to the hammer-O and not to the other O

1. **CONCEPTS and CATEGORIES:** What cues help babies form conceptual categories?

* Prominence and stability of OBJECTS
* Learning through ASSOCIATION supported by REFERENTIAL INTENT of looking, pointing, etc. = filter for learning and associating: Tomasello’s experiment
* Words cue babies’ attention to concepts that words represent

**Insights to be gained:**

* Naming insight – words represent
* words are social constructs that depend on shared commitment
* words belong conceptually to categories – what’s the basic level category?

Learning beyond nouns: The VERB problem

Why are verbs a ”problem“ for a baby while learning language if they exist in abundance in all languages? In what stages does the mind learn categories of speech that are less prominent perceptually than nouns?

CRITICAL ISSUES to come:

1. How do babies make the leap from their first poorly fitted words to composing and decomposing them?
2. How do babies gain the grammar of inflecting and forming words (through derivation and compounding)?
3. How do babies gain the grammar of irregular nouns, verbs etc.?
4. How do babies learn to predict allomorphs and use unpredictable forms?
5. How to account for how toddlers and kids deal with grammar without the support of UG?

**COMPLEX WORDS Inflection, derivation and compounding TABLE p. 171**

3 options of word learning:

2 psychological mechanisms of word processing:

2 brain tracts to deal with words cf. w rules

Cf. learning COMPOUNDS with unpredictable meanings

Kids’ learning by ANALOGY without depending on RULES

How does the mind arrive at RULES (e.g. irregular noun plurals or past tense verbs)?

Gaining a gradual familiarity with words and storing patterns of sound combinations vs. generalizing rules

Learning allomorphs

**Remembering or** generalizing? the noun plural or verb 3 sg suffix –pronounced S, Z or IZ depending on the consonant preceding the suffix > trucks, beds and watches or...

**Analogy:** Does analogy fit in with word-memorizing or word-forming through rules?

**QUESTIONS to review:**

What is word and What is word for? What is it in an adult's understanding?

Roughly through what stages do babies figure out what the word is all about?

And what sort of knowledge and experience precedes this "figuring out" in babies?

In the stream of speech, how are words marked/what are their boundaries, in English and another language you know?

For what reasons is the adult's foreign language learning experience so different from a baby's learning the first words in his or her mother language?

Doing sound statistics implies building a baby's grammar foundations. Explain.

What do babies hear when they hear? What do they store when hearing language? And how do they retrieve sound units to be matched against objects? (Hearing doesn't imply making sense in babies' mind.)

Comment of the experiments testing babies matching of (1) words to meanings and (2) words to categories.

Into what two streams is linguistic knowledge separated, as evident in a young baby’s learning of words?

What are the assumptions behind the object-bias seen in babies' cognitive ways to understand?

What’s implied by the fact that babies need to figure out that words aren't just sound clusters but serve to refer to the world, i.e., words are used to label REFERENTS in the process of REFERENCE?

What are some of the natural classes of sounds? What does “natural“ mean here?

What are some of the natural classes of concepts?

What role does the speaker's intent play in child's learning of words? How is joint attention reached between the baby and parents?