Learning language is pretty incredible

- Language acquisition succeeds without:
  - Explicit instruction on grammar
  - Simplified speech in children
  - Language examples in a particular order
  - Evidence for all the rules
  - Correction of grammatical errors

So what do kids know about language at a particular age?
Neonates have **CATEGORICAL PERCEPTION**
- Perception in terms of *linguistics* categories (e.g. [pa] vs. [ba]) even though no “boundary in acoustic signal.

Neonates show **PHONETIC DISCRIMINATION**
- Perception of contrasts that are phonemic in any language
- Loss of phonetic discrimination for sounds not in input by 10-12 months
- Probably learning to ignore sounds that do not matter in native language
FIRST YEAR - Production

Babbling

- Around 6 months: varied babbling
  - More consonant-vowel combinations, like ba ba
  - Syllables may be repeated with a change in only a single segment (ba ba bi, gi ki gi)

- Around 10 months: restricted phonetic inventory
  - Only the sounds of the native language
  - Divergence of syllabic structures
Child produces first words

**HOLOGRAPHISTIC SPEECH**

Talking in one-word utterances

Typical word list (age 15 months):

- airplane, apple, banana, belly-button, book, bottle, bye bye, car, daddy, diaper, dog, eye, kitty, light, mommy, and uh oh

Names for people, common nouns, modifiers, actions, social interactions
1.5 - 2.5 YEARS OLD

**TELEGRAPHIC SPEECH**
- Two-word utterances (around 18 mo.)
- From about 1-1/2 to 2-1/2: mainly content words - missing *function* words and affixes

**RAPID VOCABULARY GROWTH**
- The child acquires up to 12 new words a day
- Words can be acquired on the basis of a single exposure (fast mapping)

**MEAN LENGTH OF UTTERANCE (MLU)**
- Average number of words per utterance
  - “Kitty!”
  - “Pet kitty.”
  - “Kitty scratch me.”
  - “Bad kitty.”
Beginning around 18-24 months of age, children’s rate of development starts to vary more. Age is no longer an excellent predictor of the child’s abilities. A much better predictor: MLU. Yet, children pass through the same stages in the same order.

**Grammar explosion** (around 2.5 years)
- Begins around the age of 2.5 years (MLU=2.25).
- Function words and endings begin to appear (the, him, -ing, -ed)
- Overregularization errors begin.
AGE 3 - 5 YEARS

- Children come to produce and comprehend virtually all types of structures.
- Experimental studies show children to be adult-like in most areas of grammar.
- Around age four, they start to develop metalinguistic awareness (awareness of language as an object – defining words, correcting their own errors).
Theory of Mind

- ToM refers to an understanding of mental states that enables us to explain and predict others’ behavior.
  - Mental states can include belief, desire, knowledge, fear, etc.
  - Language has a way of expressing these mental states.
    - Normally encoded in the meaning of ‘mental state verbs’.
      - such as ‘think’, ‘want’, ‘know’, ‘fear’, etc.
Classic False Belief Task

This is Sally.

This is Anne.

Sally puts her marble in the box.

Now Sally comes back. She wants to play with her marble.

Where will Sally look for her marble?
Theory of Mind Development

2-year-olds
- Action based on desires

3-year-olds
- Understand divergent desires but not divergent beliefs (these must reflect the world). Use verbs like “think”, “know”, “guess”

4-year-olds
- Actions based on thoughts, even if different from the world. Distinguish “think” & “guess” from know on degree of certainty
Acquisition of Passives

Passive Constructions

Ernie hugged the dog.

Short “be” passive: The dog was hugged

Long “be” passive: The dog was hugged by Ernie.

(Short “got” passive: The dog got hugged.)

Verb types: Actional verbs (e.g. hug, chase) and Perceptual verbs (e.g. like, see)
How do kids generally do?

- Generally, English-speaking children do not begin to show adult-like performance on verbal passives reliably until age 4 or 5.
- Non-adult-like understanding of nonactional passives until around age 7-9.
- In some studies, children can understand short perceptual passives and long actional “be” and “get” passives.
What's so hard about “by”?

- Adults and children don’t generally produce “by”-phrases very often.

  Pragmatics may be playing a role.

- It may be possible that adding a contrastive participant may help kids show us their knowledge.
How did this study work?

- Truth-Value Judgment Task
- “Oscar, can you tell me something about the story?”
- “Was Oscar right or was he being silly?”
Thank you!
Questions?