

## Language Acquisition

Steve Croker / Room C009 / Ext. 2081  
s.croker@derby.ac.uk

### Outline:

- What is language?
- How does language develop?
- Lexical acquisition:
  - the sequences of acquisition
  - the problem
  - the theories
- Learning outcomes

## What is language?

- Language is not the same as communication
  - bees, dolphins, monkeys communicate
  - humans use language
- Differences:
  - in language different elements can be identified (e.g. words)
  - arrangement of these elements influences meaning of the message
    - e.g. John kissed Mary vs. Mary kissed John
  - language relies on STRUCTURAL DEPENDENCY between different elements
    - e.g. subject verb agreement - I am, you are

## How does language develop? (1)

- 2 categories of theories:
  - Nativist theories:
    - children are born with innate KNOWLEDGE that helps them make sense of the world
  - Constructivist/emergent/empiricist theories:
    - language is LEARNED by building up knowledge from the environment

## How does language develop? (2)

- 3 distinct streams of research:
  - PHONOLOGICAL DEVELOPMENT
  - LEXICAL DEVELOPMENT
  - GRAMMATICAL ACQUISITION
- Only going to discuss lexical development

## Lexical development - Word learning

- The study of how children build up a vocabulary (LEXICON) of words (LEXEMES)
- Children start with 'one word utterances' = 'one word stage'
- When occur?
  - About age of 1 year (though range = 9 months -24 months)

## Sequence of acquisition (1)

- Beginning of 1 word stage marked by:
  - emergence of systematic, repeated productions of phonologically consistent forms
  - 1st words:
    - 'comprehensible words' e.g. [uæy] (Halliday, 1975) [mæmæmæ] (Dore, 1985)
    - 'meaningful words': approximate to adult form (e.g. raffe)
    - highly context bound

## Sequence of acquisition (2)

- Then:
  - children come to use words in more adultlike ways
  - words start to be used in wider range of contexts
  - children use wider range of word types:
    - referential words (ball, doggie, chair)
    - proper names (Mummy, Spot)
    - actions (open, wash, tickle)
    - properties, states, qualities (more, gone, up, on, dirty)
    - social-pragmatic words (no, please)
    - few 'frozen' phrases (all gone, what's that)

7

## Very first words of 1 child

Age 12 months	Reference words: Dog Teddy Fish Proper names: Charlie Daddy Sound word: Woof Social pragmatic words, Ta Phrases: All gone what' s that
Age 13 months	Proper names: Mummy Lauren Sound words: Quack Uh oh Social pragmatic words: Hello Phrases: All fall down,
Age 14 months	Reference: that Sound: Grrr Tick tock Meow Social pragmatic: Bye Boo Adjective: Cold Hot

8

## How do children learn words? The problems (1)

- 1. The problem of reference:
  - a word may refer to a number of referents (real world objects)
    - 'smotri sinochik'
  - a single object or event has many objects, parts and features that can be referred to



9

## How do children learn words? The problems (2)

- 2. The scale of reference
  - What is the difference between a cup and a glass?
  - Child has to learn which particular class of things a word refers to

10

## How do children learn words? Constructivist solutions

- children learn word meanings with no innate knowledge to help them
- Semantic feature theory (Clark, 1973, 1975)
  - each word has a list of semantic features:
    - e.g. DOG = +OBJECT +ANIMATE +FOUR-LEGGED +FURRY +WHISKERS +WOOFS
  - a referent (object) must be characterised by all these features for the word to be applicable
  - children start with more general features (e.g. +OBJECT +ANIMATE) then extend to include more specific features (+WOOFS) later on

11

## Semantic features theory (1)

- Good points:
  - explains OVEREXTENSION errors
    - e.g. daddy = all adult males
  - explains why overextension tends to apply to perceptually similar shapes

12

## Semantic features theory (2)

- Bad points:
  - overextension not as frequent as Clark thought. Barrett (1996) - 7-33% of words
  - overextension occurs late in the developmental history of a word (Dromi, 1987)
  - underextensions more common early on (Golinkoff et al, 1994)
  - it's proven impossible to define the relevant sets of semantic features
  - how does this work for verbs and other words (e.g. close)

13

## Prototype theory (1)

- Widely supported
  - Meaning of a referential word is initially acquired in the form of a prototypical referent for that word
  - e.g. meaning of word **dog** 1st applies only to a typical dog
- child then generalises to other objects on basis that they share common features with the prototype:  
then:



14

## Prototype theory (2)

- Good points:
  - explains overextension
    - e.g. clock -> bracelet AND sound of dripping water
  - explain underextension
- Bad points:
  - no one agrees as to what is prototypical
  - can't explain acquisition of non-referential words
  - can't explain why initial words occur in restricted range of contexts (Barrett, 1986)

15

## How do children learn words? Nativist solutions

- Children have innate knowledge that enables them to learn words
- Constraints theory (Markman, 1989, 1992, 1993)
  - built-in assumptions direct mapping of words onto meanings - CONSTRAINTS:
    - WHOLE OBJECT CONSTRAINT
    - TAXONOMIC CONSTRAINT
    - CONTRAST CONSTRAINT
  - similar constraints for actions (Clar, 1993)

16

## Constraints theory

- Good points:
  - explains speed at which new words learnt (8-10 words per day during 1st year, Carey, 1978)
  - Upheld in Markman's lab (Markman, 1989, 1992, 1993) in studies on 3-5 year olds
- Bad points:
  - how do children decide whether to apply object or action constraint?
  - Why are so many first words parts of objects (leg, eye, head)
  - how do children learn one object may have more than one name (e.g. dog, Rover, animal)

17

## Learning Outcomes

- Outline the sequence of acquisition of word learning
- Describe the problems that language acquisition researchers face
- Critically compare and evaluate the nativist and constructivist views of language acquisition

18

## Developmental Psychology: Lecture 8: Reading

Items marked with a \* are on my restricted loan list.

### Books

- \*Messer, D. & Miller, S. (1999) Exploring developmental psychology. London: Arnold.  
Chapter 4. A very good introductory chapter.
- \*Fletcher and Macwhinney (1996). The handbook of child language. A great book with chapters by the leading lights in the field.
- \*Barrett, M. (1999). The development of language. Another fine book on language.

### Journals

The Journal of Child Language is in the library. We've got issues from 1974-1994 and then from 2000 onwards. Should be loads of articles in there.

First Language: we've got 1980-1994.

Child Development: we've got 1965-1984 and 2000-.

Cognition: we've got 1993 onwards

Andersen, E.S. (1975) "Cups and glasses: Learning that boundaries are vague." Journal of Child Language 2 79-103.

Carabine, B. (1991): Fuzzy boundaries and the extension of object-words. Journal of Child Language 18 355-372.

Clarke, E. (1993). The lexicon in acquisition. Cambridge: CUP

Clark, E. (1973). What's in a word? On the child's acquisition of semantics in his first language. In T. E. Moore (Ed.), Cognitive development and the acquisition of language. NY: Academic Press.

Gathercole, V.C. (1983): Haphazard examples, prototype theory, and the acquisition of comparatives. First Language 4 169-196.

Gathercole, V. C. M. (1989). Contrast: a semantic constraint? Journal of Child Language, 16, 685-702. Argues against semantic features hypothesis.

\*Gleason, J. B & Ratner. (1998) Language acquisition. In J.B. Gleason and N. Ratner (Eds.) Psycholinguistics. Kossan, N.E. (1981) Developmental differences in concept acquisition strategies. Child Development 52 290-298.

\*Markman, (1990). Constraints children place on word meanings, Cognitive Science, 14, 57-77

Tomasello, M, & Kruger, A. C. (1992). Joint attention on actions: acquiring verbs in ostensive and non-ostensive contexts. Journal of Child Language, 19, 311-33.

\*Tomasello, M. (1995). Pragmatic context for early verb learning. In M. Tomasello & W. E. Merriman (Eds.). Beyond names for things: Young children's acquisition of verbs. Criticises constraints theory and proposes alternative theory.