Language Development

Before the first word

- speech perception
- speech production

Single word utterances

- first words
- characteristics
- lexical development

Speech perception- Categorical perception

Lasky et al.

1- and 4-month old Guatemalan infants born into Spanish-speaking homes

Found that:

Babies can perceive two distinctions between the phonemes that are not part of their language but not the one that is in their language.

Speech perception system is tuned into the native language.

Speech production

1. Babbling

   reduplicated- “dadadada”

   variegated- “bidadu bidadu”

   practice of muscles control

   influence of the target language

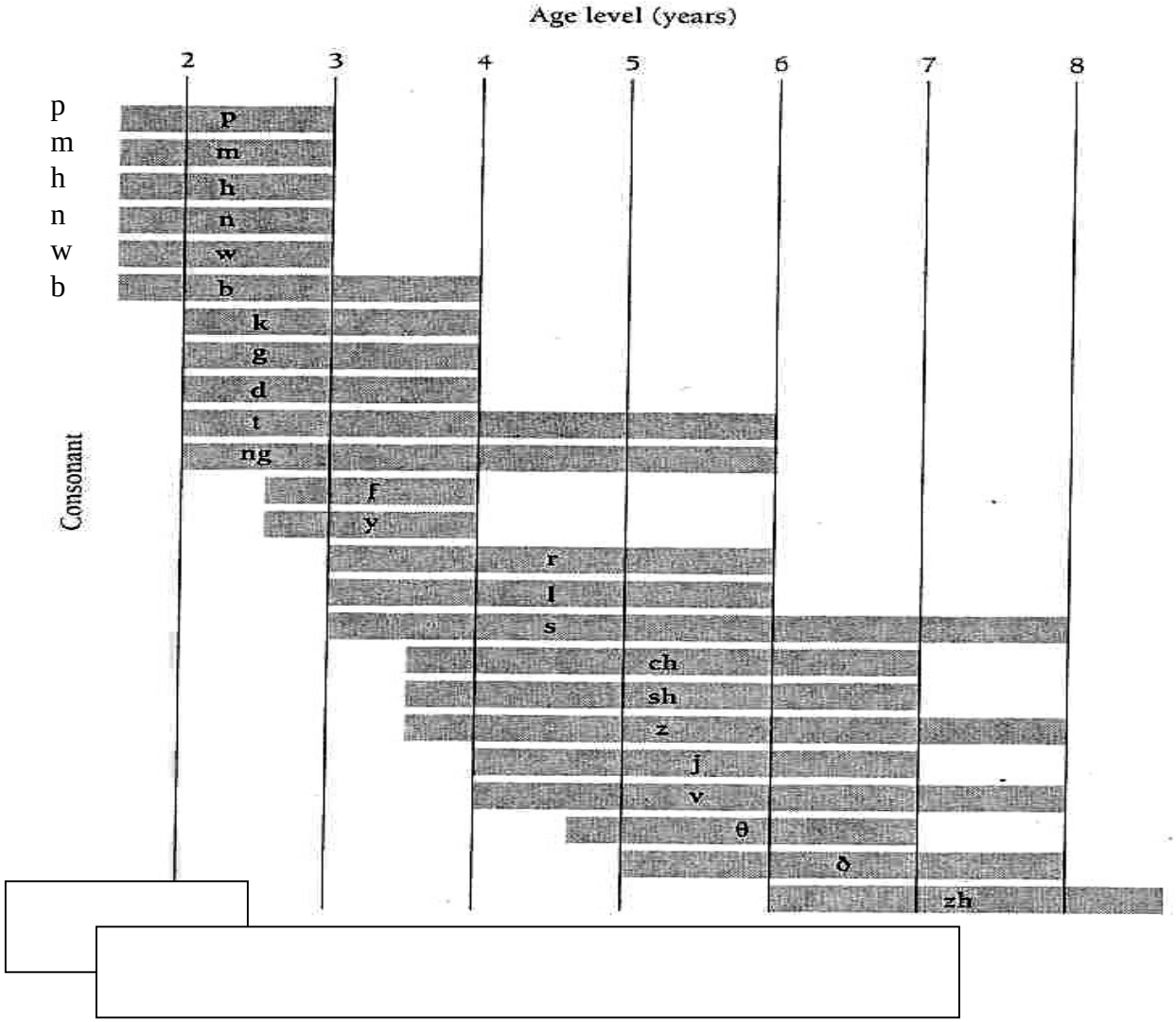
2. Idiomorphs

   e.g., *caca* → milk

   creative

   consistent

Average age of consonant production



Phonological errors in early speech production

Bloom & Lahey (1978)

Type	Example
Reduction	*tore* for *store*
Coalescence	*paf* for *pacifier*
Assimilation	*nance* for *dance*
Reduplication	*titty* for *kitty*

Single word utterances

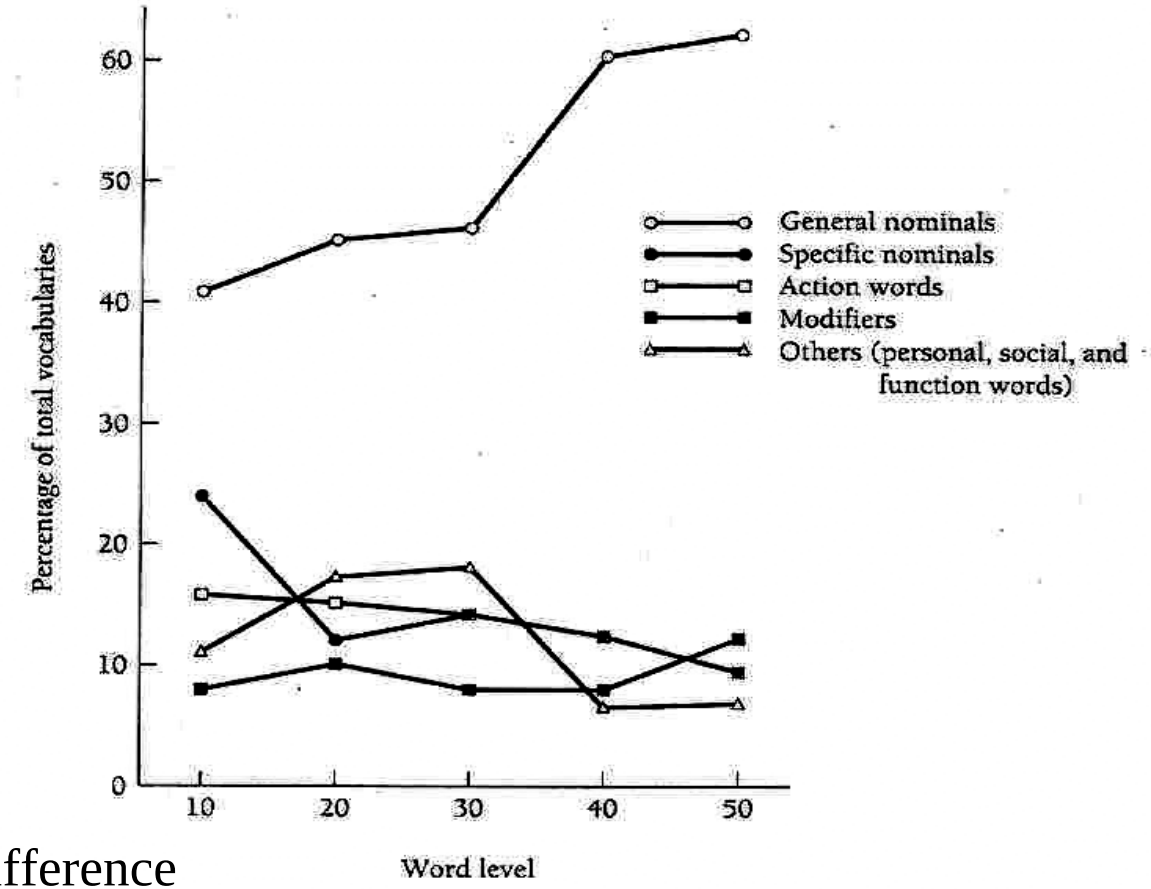
First 10 words- 12 months

context-bounded vs. referential

Table 4.1 Four children's first ten words

	CHILD			
Word type	*James*	*Jacqui*	*Jenny*	*Madeleine*
Context-bound	mummy	wee	choo-choo	there
	go	hello	bye-bye	hello
	quack	mummy	there	here
	there	here		bye-bye
	buzz	no		
	moo	down		
	boo	more		
		go		
Nominal	teddy	Jacqui	teddy	teddy
	ball	bee	doggy	shoes
			moo	brum
			shoe	woof
			car	baby
Nonnominal	more		mummy	yes
			no	

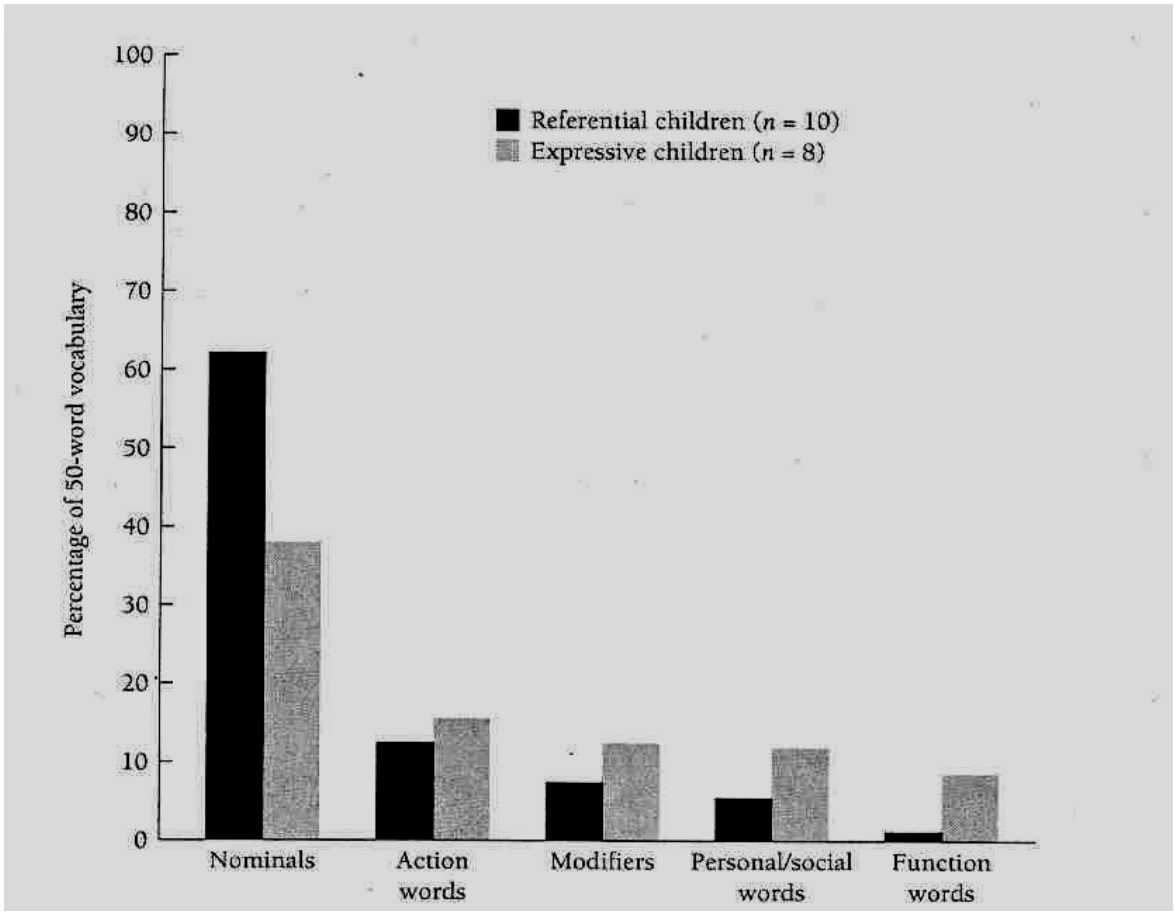
First 50 words- 18 months



Noun bias?

- N vs. V
- linguistic difference
- cultural difference

Individual difference



Sources of the difference

- Environment: input from the mother
- Birth order: referential children are more likely to be the first-born
- Children's temperament/hypothesis

Consequences of the difference

- Referential children have more rapid language development?

Overextensions

e.g., Use “dog” to refer to all four-leg animals

Underextensions

e.g., Use “dog” to refer to a specific dog Lucky

Is overextensions a reflection of underlying semantic system?

Probably not, because:

1) not that often

2) not consistently used

3) not consistent with comprehension

4) decline when vocabulary increases

How are new words learned?

What is a “word”?

the segmentation problem

Saffran et al. suggested that babies can learn the sequence of phonemes

Jusczyk et al. suggested that babies can learn the prosodic pattern

What does the word mean?

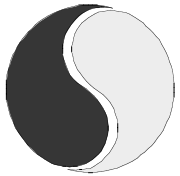
the mapping problem

From 18 months to 6 years:

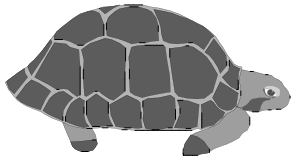
Children learn an average of 9 new words a day

Fast mapping-

20-month olds can do this at one exposure

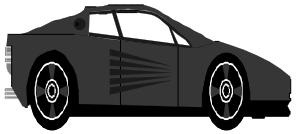


ball



?

bird



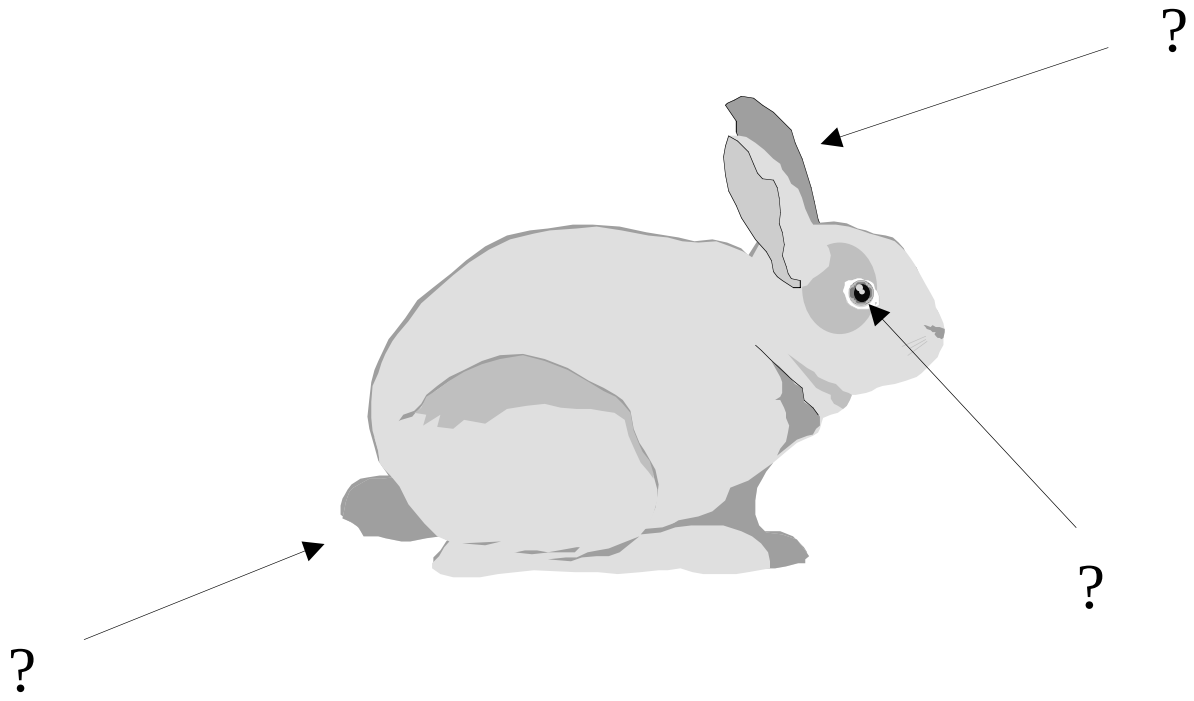
car

Can I have the ball?

Can I have the zib?

But how?

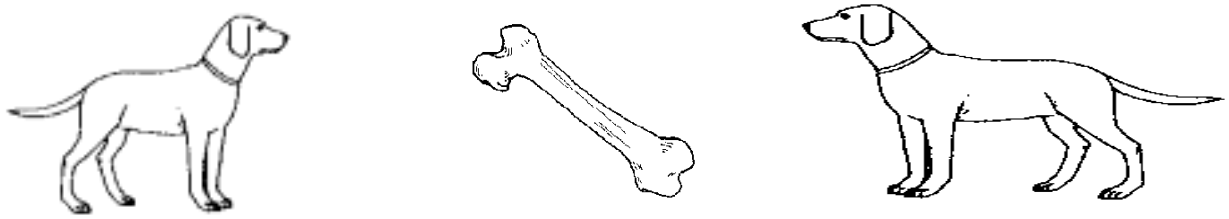
What does the word RABBIT mean?



1. Internal constrains

whole-object assumption

taxonomic assumption



No word: Find another one that is the same as this.
Word: This is a sud. Find another sud that is the same as this sud.

mutual exclusivity assumption

2. Input and sociopragmatic cues

Motherese

here and now

unambiguous utterances

Nonlinguistic context

the focus of gaze

cross-situational information

others' behaviors and responses

E.g., "Let's go *twang* it!" + accidental/intentional movement

24-month olds thought *twang* only refers to the intentional action

3. General learning processes

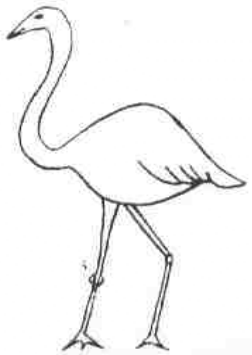
E.g., an orange is called a ball because of the shape

- common nouns refer to similarly-shaped things
- can account for overextensions
- after acquire a certain amount of vocabularies

However, children make inference about categorical membership, even it is in conflict with perceptual similarity.

Gelman & Markman (1986) tested 4 year-olds

This bird's legs get cold at night.



bird

This bat's legs stay warm at night.

bat

bird

See this bird [bat]?
Do its legs get cold at night like this bird or stay warm like this bat?

Children preferred to use the category information significantly better:

	Experimental condition	No conflict control	Attributes control
Percentage of category choices	68	88	54

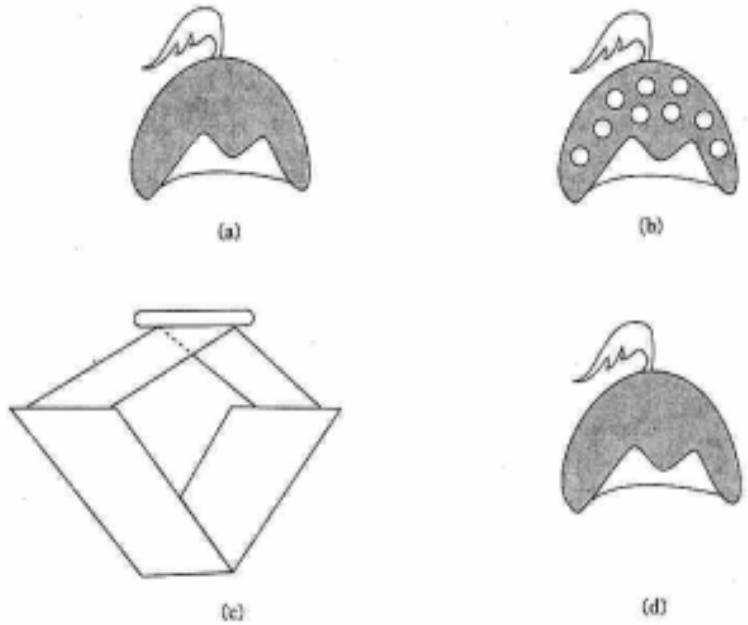
- This pattern is true even when synonyms (e.g., rock and stone) rather than identical labels are used
- When the attributes are more perceptually based (e.g., size), children did not rely more on the category information

4. Syntax

e.g., Gelman and Markman (1985) tested 4-year olds

Find the fep one. → (b)

Find the fep. → (c)



Syntactic bootstrapping hypothesis