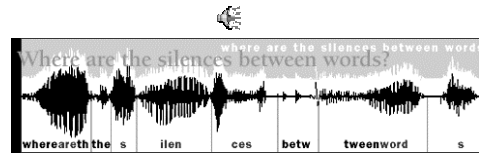


Picking out words

Segmentation - the problem



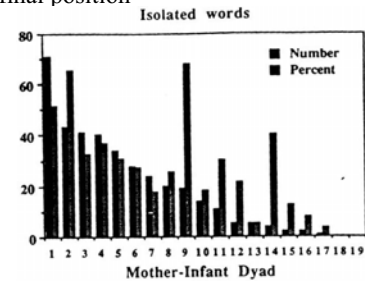
<http://www.waisman.wisc.edu/infantlearning/infantlang.html>

Identifying new words

- Aslin, Woodward, LaMendola & Bever, 1996
 - Asked parents of 12-month-olds to teach 3 new words: wrist, lips, lobe

What other things might parents do, and would these help?

- Word final position

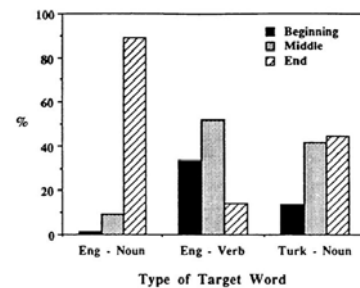


Aslin, 1993

Word final position

- Is this because they know it helps?
 - Turkish: yuz, lule, yanak
 - English: lift, wipe, ring
- Grammatical sentences:
 - Cici yap annenin yuzune cici yap
[make nice (pat), you mother's face make nice (pat)]
 - Can you wipe your mouth?
- Ungrammatical sentences
 - Goster kizim yuzunu [show my daughter your face]
 - David wanna wipe

Word final position



Aslin, 1993

Proportion of maternal utterances in English and Turkish containing the target word (noun or verb) at each utterance position.

Would isolation help?

- Cummings & Fernald (2003)
 - Are 18-month-olds better at learning words when presented in isolation?
- Four teaching conditions:
 - Isolated - repeated
 - Look at that. Toma. Toma. Do you see it?
 - Isolated - not repeated
 - Look at that. Toma. Do you see it? Toma.
 - Multi-word - final
 - Look at the toma. See the toma?
 - Multi-word - medial
 - Look at the toma over there. That's a toma there.

Another point of view

- Brent & Siskind, 2001
 - Recorded mothers speech over 14 visits (1-2 hrs each) from age 9 - 15 months (>200 hrs speech)
 - 9% of all utterances were isolated words
 - The frequency with which words occurred in isolated predicted children's later knowledge of that word.

What other things might parents do, and would these help?

- Emphatic stress
- Variety of adjacent words

Statistical patterns

- Tracking the statistical patterns
 - “pretty baby”



http://whyfiles.org/058/language/baby_talk.html

Saffran, Aslin & Newport, 1996

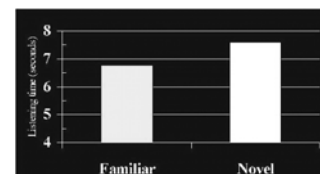
- Made-up language: 4 words, each 3-syllables long. 🗣️
- No prosodic or duration information to word boundaries.

- Test with “words” 🗣️



Statistical patterns

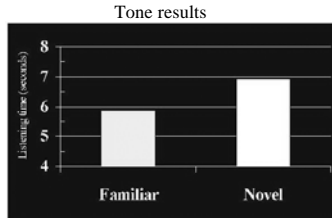
- If familiarize with sequence like:
 - kabutikulagikabuti... 🗣️
- Test with:
 - A familiar word
 - kabuti
 - A novel word
 - butiku



www.waisman.wisc.edu/infantlearning/infantlang.html

Is this a language thing?

- You get the same learning for strings of tones or flashing lights.



www.waisman.wisc.edu/infantlearning/infantlang.html

Other potential cues

- Knowledge of phonotactics
 - If you hear /bɪgdag/ - there can be a boundary after /g/ but not after /l/
- Allophonics
 - If you hear /naɪst^hap/ - presence of aspiration indicates it is “nice top” not “nice stop”

Infants’ use of allophonics

- Hohne & Jusczyk (1994)
 - 2-month-olds in discrimination study
 - “night rate” vs. nitrate
- Jusczyk, Hohne & Bauman (1999)
 - After being familiarized with “nitrates”, do 9-month-olds discriminate between “night rates” & “nitrates”?

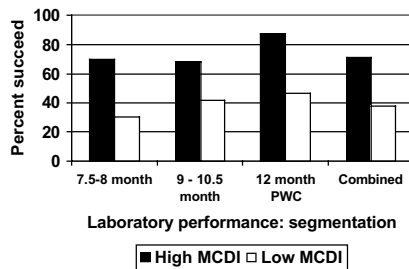
Segmentation

- Jusczyk & Aslin, 1995; 7.5-month-olds

The feet were all different sizes. This girl has very big feet. Even the toes on her feet are large. The shoes gave the man red feet. His feet get sore from standing all day. The doctor wants your feet to be clean.

His bike had big black wheels. The girl rode her big bike. Her bike could go very fast. The bell on the bike was really loud. The boy had a new red bike. Your bike always stays in the garage.

Long-term implications for segmentation



Long-term implications for segmentation

- Those children who showed consistent segmentation abilities as infants have higher scores on:
 - Grammatical understanding (TOLD-3)
 - Grammatical comprehension (TOLD-3)
 - Sentence imitation (TOLD-3)
 - Phonological awareness
- But not differences in IQ