

## Bilingual households

How do you keep languages separate?

## Native language preferences

- Infants at a young age listen to their native language preferentially
- Mehler et al (1988) - 2 month olds
  - French infants listen longer to French than Russian, but no longer to English than Italian
  - American infants listen longer to English than Italian, but no longer to French than Russian
- Moon, Cooper & Fifer showed similar patterns in 2-day-olds

## Native language preferences

- These results imply that infants can discriminate the languages. But how?
- Possibility 1: Prosodic (or intonational) information
  - Evidence: Infants show the same preferences when speech is low-pass-filtered

## Native language preferences

- Possibility 2: Phonetic information
  - Dutch & English have very similar prosody, but different phonology
    - ex: Dutch allows sequences like /kn/ & /zw/ at syllable onset
  - Jusczyk et al.: American infants preferred English words and Dutch infants preferred Dutch words
    - But, not until they were 9 months of age

## Native language preferences

- American infants preferred English words over Norwegian words at 6 months
- Distinguishing based on phonology requires learning the phonology first

## Discriminating among other languages

- What if neither is THE native language? (as in a bilingual home?)
- Languages fall into different rhythm classes.
  - Stress-timed
    - Ex: English, Dutch
  - Syllable-timed
    - Ex: French, Brazilian Portuguese
  - Mora-timed
    - Ex: Japanese

## Rhythm classes

- In syllable-timing, each syllable takes a similar amount of time to be produced



- In stress-timing, rhythm is based on stressed syllables only; unstressed syllables tend to be compressed



Images from Ricardo Schütz

## Rhythm classes

- In the example below, the word “aproximately” takes almost the same time to be produced as the 1-syllable “old” in a stress-timed language

ap**pr**oximately a **thou**sand **old** re**fr**igerators  
[ə'prɒksəmədli ə'θɔwzən ɔlɪd rɪ'frɪjəreɪdərz]

- In a syllable-timed languages, it would take 5 times as much time

From Ricardo Schütz

## Rhythm classes

- This aspect of rhythm may be easy to hear, such that infants can distinguish languages from different rhythm classes before they can distinguish languages in the same class.