

Perception of rhythmic grouping depends on auditory experience

by Iversen, Patel & Ohgushi

presented by Jeremy Yuan
USC ISE 575 / EE 675
Jan 26, 2010

Question

- Does experience shape low-level perception of rhythm?
- Formerly tested by Jakobson et al.
 - Czech, French, and Polish interpretations of even intervals of knocks
 - No empirical evidence to support claim

Previous Testing

- Kusumoto & Moreton tested American and Japanese listeners on rhythmic grouping in simple tone sequences
- Alternating loud and soft were perceived as loud-soft by both cultures
- Alternating durations yielded different results
 - Americans = short-long
 - Japanese = long-short

Motivation

- Previous testing by Kusumoto & Moreton
- Paper #1
- Infant sensitivity to rhythm of native language and musical rhythm

Method

- 2 types of audio samples of alternating tones
 - 1st type with increased/decreased amplitude
 - 2nd type with increased/decreased duration
 - 10 second samples
- 2 cultures, Japanese and American
- Added confidence rating to set apart from Kusumoto & Moreton studies

Results

- Amplitude sequences similar across both cultures
 - Both preferred loud-soft
- Duration sequences perceived differently
 - Americans = short-long
 - Japanese = no preference

Discussion

- Why the difference?
 - Language of the culture
 - speech rhythm
 - English is head-complement
 - Japanese is complement-head
 - Musical rhythm(?)
 - Rhythmic bias in infants(?)