Frequency Shift Detectors

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Tea Talk

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Auditory Scence Analysis

Making sense of an auditory scene

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- ▶ Segregation : Hearing multiple separated objects
- ▶ Integration : Heard as a whole

EXAMPLE : Streaming
EXAMPLE : Breaking Harmony

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Percept at transition S1 -> S2 (audio and vision)

- ▶ addition
- ▶ disapearance
- ▶ motion

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Frequency shift detector: introduction

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EXAMPLE of task "up/down"

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- Robustness to distractors

- Automatic, little effect of selective attention

- High level -> binaural 'test tone'

Psysiological evidence

- No mechanism found so far
- 'Memory mechanism' needed

Comparison with vision

- Vision : space <-> Audition : Frequency

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- Audio: longer fine-grain memory

- Vision: strong effect of selective attention (where to attend)

- Vision : Direction > Presence | Audition : Presence < Direction

Thanks

Based on work from

- Laurent Demany
- Christophe Ramos
- Catherine Semal
- Daniel Pressnitzer