



Polyphonic Timbre Perception & Cognition: Across disciplines and cultures



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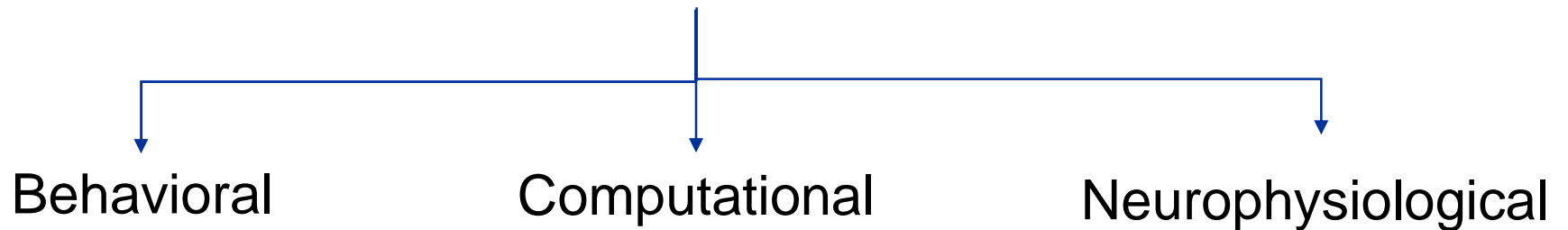


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Polyphonic Timbre



- salient features of polyphonic timbre perception
- bridge the “semantic gap”?
- salient timbral features that determine preference and how do they vary cross-culturally?

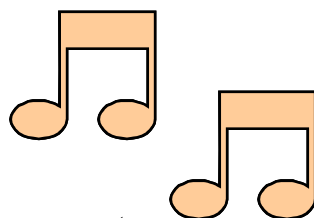
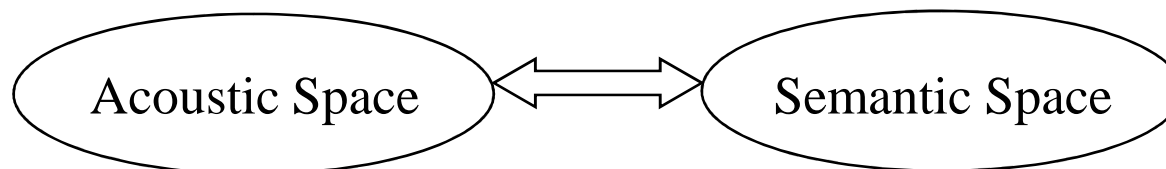
- individual’s neurophysiological reactions behavioral preference for particular timbres?
- “timbre space” \Rightarrow behavioral responses + timbral features of music + neurophysiological responses



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Behavioral Study



Cross-cultural excerpts selected manually and via computational methods



warm, rich, full, cold, soft,.....

what word would i use to describe its timbre?

What do i like about it?



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Computational Analysis



- Spectral Feature Analysis
- Polyphonic timbre spaces
 - Multivariate statistical analysis, Factor analysis

Brain Measures: EEG brain oscillations, MMN

Physiological Measures: Blood flow, cardiac function, and respiratory function

Applications: MIR, Musical Interfaces, Music Therapy

