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Introduction to Cognitive Neuroscience
Summer 2008

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Intro to Cognitive Neuroscience

Some thoughts about music

What is music?

What is music?

- Definition from Wikipedia - an art form in which the medium is sound organized in time.
- Common elements of music:
 - Pitch (which governs melody and harmony)
 - Rhythm (and its associated concepts tempo, meter, and articulation)
 - Dynamics
 - Timbre and texture

Music cognition

- Field of studying the processes by which listeners hear, process, and understand music.
- http://flashmedia.uva.nl/avc/uvatv/fascinatie/h_h_s.html

Music is a human quality

- Can music convey precise ideas?
- Four drumbeat clips - do these convey *anger*, *solemnness*, *sadness*, *happiness*, *tenderness*, or *fear*?
- http://scienceblogs.com/cognitivedaily/2005/04/drumbeats_alone_can_convey_emo.php

Music is a human quality

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- Clip 1

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- Clip 2

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Music is a human quality

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- Four drumbeat clips - do these convey *anger*, *solemnness*, *sadness*, *happiness*, *tenderness*, or *fear*?

To hear the clip, go to:

- Clip 3 http://scienceblogs.com/cognitivedaily/2005/04/drumbeats_alone_can_convey_emo.php

Music is a human quality

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- Clip 4
 - To hear the clip, go to:
http://scienceblogs.com/cognitivedaily/2005/04/drumbeats_alone_can_convey_emo.php

Music is a human quality

- Can music convey precise ideas?
- Laukka and Gabrielsson, had participants listen to drum rhythms, ID the emotion expressed.

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To see the results of this study go to the following link:

http://scienceblogs.com/cognitivedaily/2005/04/drumbeats_alone_can_convey_emo.php

Music is a human quality

- So music - even just a drum rhythm - can convey emotion. How about more precise ideas?
- Koelsch et al had participants either hear a sentence or a musical passage, and then presented them with a word.
- Participants had to determine whether the word and passage were related.
- Compared ERPs of related and unrelated sentences, music.
- http://scienceblogs.com/cognitivedaily/2007/02/can_music_convey_meaning_in_th.php

Music is a human quality

- Sentence prime 1: The gaze wandered into the distance.
- Sentence prime 2: The manacles allow only little movement.

Music is a human quality

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Music is a human quality

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- Music prime 1: R. Strauss
- Music prime 2: H. Valpola

Music is a human quality

- Image removed due to copyright issues.
- Go to the following link to see the image: <http://www.implicit-marketing.de/weblog/images/4.jpg>