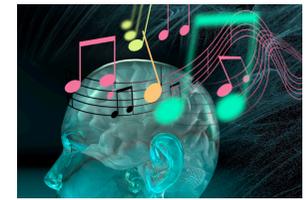


# Hemispheric Specialisation in the Appraisal of Music

David Cottrell<sup>1</sup> and Helena Pacitti<sup>2</sup>

<sup>1</sup>James Cook University and <sup>2</sup>University of New South Wales



## Background

“Hai una sigaretta?”



Messages are appraised more positively in the Left Hemisphere than in the Right Hemisphere.

Marzoli & Tommasi (2009)

BUT...

The request is linguistic and language is processed in the Left Hemisphere.

The request is a fairly trivial affective stimulus.

Kimura (1961, 2011) has consistently argued that demonstrating ear asymmetries depends on dichotic presentations.

## Research Question

Is the asymmetry reported by Marzoli & Tommasi an affective valence effect or a language effect?

## Method

Present short music clips monaurally as emotionally charged auditory stimuli.

## Stimuli

48 Unfamiliar music clips equated for arousal, varying in emotional valence and language content. Eg:

	English Lyrics	Instrumental	Non English Lyrics
Pleasant (Liked)	<i>Yes I wanna go.</i> : (Rat Cat) <i>Skalypso</i> : (Dr Raju)	<i>Beachball</i> : (Nalin and Kane) <i>Mr Zoot Suit</i> : (Flying Neutrinos)	<i>Abezizwa</i> : (Ladysmith Black Mambazo) <i>Moralito</i> : (Julio Iglesias)
Unpleasant (Disliked)	<i>Holiday in the sun</i> : (The exploited) <i>Fist banging mania</i> : (Stormtroopers of Death)	<i>Endless nameless</i> : (Nirvana) <i>Milk</i> : (Storm Troopers of Death)	<i>Buck dich</i> : (Rammstein) <i>Excile's song</i> : (Huuun-Huur-Tu)
Neutral	<i>Cry Baby</i> : (Janis Joplin) <i>Ballad of Ira Hayes</i> : (Johnny Cash)	<i>Phantasm</i> : (Myrow Seagrave) <i>Filth</i> : (Dr Raju)	<i>Gitme</i> : (Tarkan) <i>Freedom Cry</i> : (Deep Forest)

## Ratings of Pleasantness

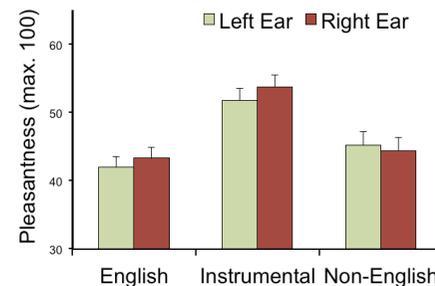


Figure 1a: Music type by Ear of Presentation

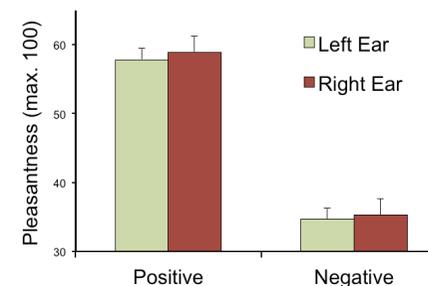


Figure 1b: Music Valence by Ear of Presentation

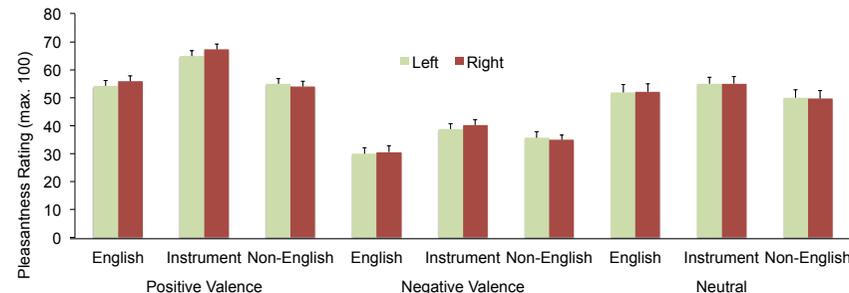


Figure 1: Mean Pleasantness Ratings (SEM) on the computerised visual analog scale.

## Summary

Music presented to the right ear was appraised significantly more positively ( $F_{(1,39)} = 4.91, p = .03$ ) than music presented to the left ear, although the effect appears to be inconsistent.

The tendency to rate music as more pleasant when presented to the right ear was modulated by language content, being significantly greater in Instrumental and English lyric music than when lyrics were sung in other languages.

There was no interaction between the valence of the music and the right ear effect.

## Conclusions

The results are consistent with information processed in the left hemisphere being regarded more positively, irrespective of it being liked.

The demonstration of an “ear difference” does not depend on the dichotic presentation of stimuli.

## References

- Kimura, D. (1961). Cerebral dominance and the perception of verbal stimuli, *Canadian Journal of Psychology*, 15(3), 166-171.
- Kimura, D. (2011). From ear to brain. *Brain and Cognition*. doi:10.1016/j.bandc.2010.11.009
- Marzoli, D., & Tommasi, L. (2009). Side biases in humans (Homo sapiens): three ecological studies on hemispheric asymmetries. *Die Naturwissenschaften*. doi:10.1007/s00114-009-0571-4