

Processing Musical Speech Surrogate

[An Extended Abstract]

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ABSTRACT

This project considers recent research, predominantly of Aniruddh D. Patel, that investigates how music cognition overlaps with other areas of complex cognitive abilities in the brain, notably language. By pairing the ethnomusicological research beginning in the mid-20th century on drum languages, whistles, clicks, weeping, and other “musical” speech surrogates with Patel’s work, the project aspires to playfully investigate relationships in sound and language by pressing users to develop communication patterns with a narrow range of “musical” sounds.

Categories and Subject Descriptors

A.1 [General Literature]: Introductory and Survey; I.7.7 [Computing Methodologies]: Document and text processing - *general*

General Terms

Experimentation, Human Factors, Languages, Theory

Keywords

Onomatopoeia, Linguistics, Phonemes, Ethnomusicology

1. SPEECH SURROGATES

1.1 Literature Review

Early accounts of drumming among peoples of central Africa noted the existence of a “drum language” employed to communicate across villages, at distances reaching 20km [5, 6]. Drummed on a large two-toned slit log drum, phrases mimicked speech patterns of central Africa bi-tonal languages but also relied heavily on stylized or poetic speech impersonation to communicate a wide range of meaning. Stern took that research one step further to codify a host of “musical” speech surrogates, from drum language to whistles, tongue clicks, and other sounds, employed by a range of cultures to replace speech in communicating meaning [7]. Research along these lines continues in the ethnomusicological scholarship with Feld’s research [8].

Patel’s contemporary work demonstrates insight into the cognitive processes that makes such speech surrogates work, most notably by tracing overlaps in music and language in the brain. Patel’s work goes so far as to draw clear connections in musical and linguistic syntax, including examination of harmony and key relationships as well as modularity across both music and language.

1.2 Connection to Project

The project is a small-scale interactive media experience that provides an environment for users to explore the communicative possibilities of a small non-lingual sound palette.

2. PROJECT

2.1 Set-up

The project currently exists as a Processing sketch that may be manipulated in real-time using a Nintendo WiiMote. The user may shift the WiiMote around its x-axis to “beat” a two-tone “log drum” or employ buttons on the WiiMote to cue a range of four short whistles or two tongue clicks. Two users are challenged to create a working set of non-lingual directions.

3. POSSIBLE FUTURE DIRECTIONS

This first iteration is meant to be fun and hopefully compelling enough to build momentum towards a larger project. No general conclusions are found here aside from the author’s own assertion that the field is worth investigation, the experiment worthwhile, and the supporting scholarship existent. Experiments could test whether groups could develop their own speech surrogates in isolation.

4. ACKNOWLEDGMENTS

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5. REFERENCES

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