

Expectations in Culturally Unfamiliar Music: Influences of Perceptual Filter and Timbral Characteristic

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ABSTRACT

Background

With exposure to a musical environment, listeners become sensitive to the melodic, harmonic, and tonal regularities of that environment. These acquired perceptual filters likely come into play when novel music scales and tunings are encountered. We ask: i) What occurs with unfamiliar timbre and tuning? ii) Are novice listeners sensitive to both in- and out-of-scale changes? iii) Does unfamiliar timbre make a difference to judgments of completeness? iv) When changes are made, is perceived coherence affected and how much change – partial or total replacement of a particular tone – disrupts judged cohesion of unfamiliar music? v) Do listeners adapt to new structures within an experimental context?

Aims

An experiment investigated the effect of unfamiliar timbre and tuning on judgments of melody completeness and cohesion using Balinese gamelan; these materials share some properties with the Western tonal scale. It was hypothesized that, when making judgments of musical completeness, novice listeners are sensitive to in- and out-of-scale changes and this is moderated by an unfamiliar timbre such as “sister” or beating tones of a Balinese gamelan. Independent variables were melody line (single, sister), change (nil, in-scale, out of scale), and amount of change (partial, total); the two latter factors were within-subjects. Dependent variables were ratings of completion and coherence.

Method

Thirty adult listeners with minimal musical training and minimal experience with gamelan music rated coherence and completeness of gamelan melodies. The 10 melodies covered the five possible scales ending on the relevant gong tone with two melodies for each gong tone. For the out-of-scale endings, the gong tone was replaced by a tone outside the scale of the melody; for in-scale endings, the gong tone was replaced by a tone belonging to the scale of the melody. Interval and contour features were preserved.

Results

For completion ratings, the out of scale endings were judged less complete than the original gong and in-scale endings. For the novel “sister” melodies, in-scale endings were judged as

less complete than the original gong endings. For coherence, melodies using the original scale tones were judged as more coherent than melodies containing partial or total replacements; single melodies were judged more coherent than the unfamiliar sister melodies.

Conclusions

The results are interpreted as evidence of acquired perceptual filters influencing judgments of novel tunings and timbre. There is also some indication of cognitive plasticity with expectations for the initially-novel materials developing during the course of the experiment session.

Keywords

Expectations, Timbre, Tuning, Gamelan, Cross-cultural