

The Acquisition of Prolongation as a Structure Constituent in Musical Attending.

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Tonal Structures

Tonal Reduction and Interpretation

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Time: Sun 21 8.30 am, Stream: D Proc. Page: 631-632
Venue: Room G17, Webster Ground

Using the theme from Beethoven's Piano Sonata Op. 26 as an example, the relationship between tonal reduction and interpretation is critically discussed. Strictly Schenkerian as well as less constrained approaches to reduction are considered in order to learn about the cognitive nature of the reductive representations that musicians are likely to entertain and profit from and about how such schemes may influence performance.

Prolongation and Music Attending: a Click Localization Study

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Time: Sun 21 9.00 am, Stream: D Proc. Page: 633-636
Venue: Room G17, Webster Ground

This study reports the results of an experiment using a click localization technique that tested listeners' experience of the prolongational structure of tonal melodies. Prolongation is a structural phenomenon described in music theory, in which some pitch events remain active within the musical 'flow' even though they are not physically present.

In a previous experiment in which prolongation was tested using a click-detection technique, significant differences were found in the Subjects' Reaction Times, when listeners detected clicks located at different focal points of the prolongational structure of melodic phrases.

The present study aims to explore further sensitivity to prolongation during music listening.

The following hypothesis was tested: clicks located at the prolongational boundary will not migrate, while clicks located before and after the prolongation boundary will migrate to the boundary.

Melodies belonging to the western tonal repertoire of art music were used. The analyses of the underlying voice-leading were taken from the literature on music theory.

Four experimental conditions were set up:

1. Click-position at boundary
2. Click-position before boundary
3. Click-position after boundary and
4. Click-position at boundary, changing the metrical position of the notes at the boundary.

Professional musicians (N=31) listened to each melody three times: first without click; second with the click; and third without the click again, this time pressing a key on-line in the place they believed the click had occurred during the previous listening.

Differences in the frequencies of clicks localized to 'after', 'before' and 'at' the boundaries were not significant.

Results seem to be contrary to the evidence found in the click-detection experiment. Some changes in the experimental conditions might account for these results, among them, the magnitude of the inter-onset interval between tones within which clicks were located, and the absence of a distracting task. Hence different processing strategy might have been elicited in the present task. Subjects reported the use of a rhythmic metrical strategy, contrary to the test requirements. It is thus necessary to investigate further experimental conditions that are amenable to exploration by means of this technique.

The Acquisition of Prolongation as a Structural Constituent in Musical Attending

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1. Background

Prolongation, as described by Music Theory, alludes to certain musical events that remain active in the musical 'flow' although they are not physically present. However, how is prolongation experienced and which its nature is, are unanswered questions. Based on previous research it is possible to assume that prolongation, as a phenomenon of music structure, is a factor that might organize the way in which the listener experiences tonal music. In a prior study, we used the click-detection paradigm and measured the Subject Reaction Time (SRT) in order to find evidence of prolongation as a constituent structural unit. If prolongation have incidence in the way the listener represents music, as long as the process of attending progresses, the study of the process of acquisition of this ability is a matter of relevance.

2. Aim

Explore evidence about the acquisition of the experience of prolongation as a constituent structural unit while attending to music.

3. Method

Thirty children (6-14 years), sorted in three age-groups, had to listen to 20 trials: 1) 10 trials: 5 melodies with a click superimposed in two different positions: i) at the boundary - between the last note of the prolongational unit and the next structural note in the musical sequence, ii) before the boundary (1 sec. before). 2) 10 trials: the same 5 melodies in which the metrical position of the prolonged final tone was modified, in order to monitor the influence of metrical factors, with the clicks superimposed according to similar criteria. We assumed that the more stable the event in which the clicks is located, the faster the SRT.

4. Results

Results show faster SRT for clicks at Boundary Positions, as it was hypothesized. Furthermore, younger children seem to have slower SRT than older children. As in the study with adults, metrical position at the prolongation boundary was a non-significant factor, although it could be observed a tendency of the youngest children to be sensitive to metrical position.

5. Conclusions

Results bring evidence about the prolongation organizing the listener's experience while attending to tonal music since childhood. However, we have reasons to think that in younger children responses could be influenced by metrical positions.