TEMPO AND LOUDNESS ANALYSIS OF A CONTINUOUS 28-HOUR PERFORMANCE OF ERIK SATIE'S COMPOSITION 'VEXATIONS'

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Background and aims

This study fills a significant gap in music performance research, namely the analysis of long-term performances. The importance of performance analysis from a global perspective is demonstrated, using an uninterrupted recording of Erik Satie's 'Vexations' performed by one pianist over almost 28 hours.

Method

In a single case study, the MIDI and acoustical data of the performance are analysed in order to explore changes in tempo and loudness. Additionally, EEG data were recorded to reveal the influence of different states of consciousness (alertness, drowsiness, trance) on tempo stability. Finally, a new method of performance visualisation will be demonstrated.

Results

The performer's changing states of consciousness (alertness, trance, drowsiness) were seen to exert a strong influence on tempo and loudness stability. Tempo and loudness remain stable over the first 14 hours of alertness. The state of trance begins after 15 hours and shows a destabilisation of tempo, folowed by uncontrolled deviations in loudness. However, the stability of tempo and loudness was affected by states of consciousness in different ways: control of tempo diminished earlier than control of loudness. The integrated view of tempo and loudness changes over the entire performance shows independent variations: faster does not mean louder.

Conclusions

It could be demonstrated that the analysis of long-term musical performance and the development of adequate analytical tools remains a challenge for performance research. The visualization of performance data showed large-scale periodicities in timing and dynamics..