Signs and Semaphores: cross-domain expressive mapping

In 'Treatise Handbook' (1971), Cornelius Cardew noted that "[musical] notation is a way of making people move". This paper describes and demonstrates new methods for the dynamic generation and display of augmented musical and other forms of notation. 'Quantum Canticorum' and 'Semaphore' are the most recent in a sequence of musical compositions by the author in which dance and music interact using body-tracking technologies and bespoke sensing devices. Movement is converted into data which trigger and modulate expressive algorithms. Uniquely, these generate in real-time audio material as well as detailed common practice music notation to be performed live. Other techniques allow for conversion from (and potentially to) graphic images and text. This paper demonstrates the techniques behind these inventions and explains how such techniques may be used to enhance the musical experience of performers and audiences.

Keywords: physical interaction, live notation, performance, machine listening, cross-domain, cross-disciplinary, cross-media

Biography

In recent years Richard Hoadley has composed using his own bespoke systems implementing physical interfaces and algorithmic software which together generate original compositions in real-time as a feature of the performance. He has developed a number of devices including the 'Gaggle' which investigate and facilitate physical interactions with musically expressive algorithms for installations, performances (including dance) and therapeutic environments. In 'Calder's Violin' he included methods for the live presentation of algorithmically generated music notation. In 'Quantum Canticorum' and ‘Semaphore’ physical gesture generates notation for simultaneous performance.

He is affiliated with the Digital Performance Laboratory at Anglia Ruskin University.