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The cyber-guitar system: a study in technologically enabled performance practice

Crossley, Jonathan

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Abstract

This thesis documents the development and realisation of an augmented instrument, expressed through the processes of artistic practice as research. The research project set out to extend my own creative practice on the guitar by technologically enabling and extending the instrument. This process was supported by a number of creative outcomes (performances, compositions and recordings), running parallel to the interrogation of theoretical areas emerging out of the research.

In the introduction I present a timeline for the project and situate the work in the field of artistic practice as research, explaining relationship between the traditional and creative practices. Following on from this chapter one, Notation, Improvisation and the Cyber-Guitar System discusses the impact of notation on my own education as a musician, unpacking how the nature of notation impacted on improvisation both historically and within my own creative work. Analysis of fields such as graphic notation led to the creation of the composition *Hymnus Caesus Obcessiones,* a central work in this research.

In chapter two, Noise, Music and the Creative Boundary I consider the boundary and relationship between noise and music, beginning with the futurist composer Luigi Russolo. The construction of the augmented instrument was informed by this boundary and aimed to bring the lens onto this in my own practice, recognising what I have termed the ephemeral noise boundary. I argue that the boundary line between them yields the most fertile place of sonic and technological engagement.

Chapter three focuses on the instrumental development and a new understanding of organology. It locates an understanding of the position of the musical instrument historically with reference to the values emerging from the studies of notation and noise. It also considers the impacts of technology and gestural interfacing. Chapter four documents the physical process of designing and building the guitar. Included in the Appendix are three CDs and a live DVD of the various performances undertaken across the years of research.