

Kircher's Music Machine

Explorations in Improvisation by the Scroll Ensemble

Athanasius Kircher, 17th Century traveller, writer, and polymath, describes in his *Musurgia Universalis* (1650) a machine, whereby any person, even a non-musician, can make music. This *Arca Musurgica* (musical arch) consists of a complex of musical choices and parameters, very much foreshadowing the logic of the modern computer, and it travelled widely, even as far as China, as it was very advantageous for kings and emperors to be able to underline their authority by presenting their own musical 'composition'.

Such a device may seem to make a mockery of music. Yet, it says a lot about the way music was learnt in the 17th and 18th Centuries. Diminution treatises provide lists of melodic ornamentation formulas, and the system of *partimento* consists of learning melodic formulae related to figured bass patterns. Performers would learn music as a language, memorising stylistic formulae, in order eventually to be able to use them to make their own music, or at least, to play existing pieces in their own individual way. Ornaments in Corelli's op. 5 sonatas were not intended as stipulations for performance; but as examples to be learnt, memorised, and digested, so that the performer may do something similar, but true to the moment and his own artistic identity.

The 20th Century philosopher John Searle posits the *Chinese Room Argument* to question if the logic of the computer can ever be the same as true understanding. Suppose, one were in a room, and did not understand Chinese, but had a set of rules in English, by which it is possible to 'translate' an input of Chinese characters to an output of different characters. Does that person know Chinese? And can then the musician who can only translate the written score to sound, no matter how beautifully, truly understand music? Back to the *Arca Musurgica* : Kircher can only provide the dictionary, and the grammatical conventions. The art of choosing the words, the intention- knowing why we chose those words, and knowing how to speak the words and sentences, depending on the sense- is an art which no computer can replicate, and which is intrinsically related to the art of improvisation.

Musicians of the past were performers, composers, and improvisers, and the Scroll Ensemble has chosen this path, of researching how to make choices in the moment taking stylistic conventions and formulae as starting points, exploring musical parameters, and ways of interacting together when playing simultaneously- especially important with two upper voices. Improvisation also lends itself to interaction with the audience; and to give a playful insight into to process of improvisation, the Scroll Ensemble has developed a simplified version of Kircher's Music Machine, in which the audience can influence an

improvisation using cards, changing, for example, the instrumentation, rhythmic motif, or character. This will be presented during the International York Early Music Competition, along with a fantasia on birdsong, a three-part improvised fantasia on the hexachord, and improvisations exploring J.S. Bach's musical heritage, with a suite on the Goldberg Variations and an improvised concerto after the Vivaldi/Bach organ concerto BWV 593.

For more information, see www.thescrollensemble.com

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