Abstracts

Alberto Novello
Media Archaeology-Based Visual Music

This article describes the intersection of Media Archaeology and Visual Music in my artistic practice that repurposes obsolete devices to investigate new connections between light and sound. I revive and hack tools from our analogue past: oscilloscopes, early game consoles, and lasers. I am attracted to their aesthetic difference from the ubiquitous digital projections: fluid beam movement, vibrant light, infinite resolution, absence of frame rate, and line-based image. The premise behind all my work is the synthesis of both image and sound from the same signal. This strong connection envelopes the audience in synchronous audiovisual information that reveals underlying geometric properties of sound. In this text I describe the practice and the aesthetic potentials connected to few analog and digital hybridized systems to generate new sonic and visual experiences.

Keywords: visual music, media archaeology, laser, hacking, analog.

Luca Guidarini
Among clouds, woods, gardens and taxonomies: new electromechanical and electroacoustic lutherie in the musical practices of Mauro Lanza, Andrea Valle and Simone Pappalardo

The research presented in this article investigates the artistic practices of Mauro Lanza, Andrea Valle and Simone Pappalardo, with particular attention to the concrete use and the theoretical definition of their new electromechanical and electroacoustics instruments. The paper considers the works *Le Nubi non scoppiano per il peso* (2011) by Mauro Lanza, the cycle *Selva Petrosa* (2019-2020) by Andrea Valle, the cycle *Systema Naturae* (2013-2017) by Andrea Valle and Mauro Lanza, and the performative practice by Simone Pappalardo. Starting from the definition of instrumental apparatus, the discussion presents the organological problems related to the new electromecha-

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nical and electroacoustic lutherie, and examines the definitions of electromechanical and electroacoustic instrument. The works of the three composers are analyzed from the point of view of the instrumental equipment, by investigating the algorithmic control techniques of the musical materials that have been used for organizing the instrumental component, and the different signals for controlling the computational component.

Keywords: algorithmic composition, physical computing, computer-aided composition, new luthiery, DIY, compositional techniques.

Nicolas Collins
The Development of the !trumpet

The !trumpet is software synthesis system controlled from, and playing back through, a trumpet. It is not an electronically extended trumpet: the player produces no acoustic sounds by blowing through the mouthpiece. Instead, breath pressure and valve movement on the brass instrument are read by an embedded Arduino microcontroller and sent to a laptop, where the data is mapped onto various parameters in synthesis software; the resulting electronic sound is returned to the trumpet, where it plays through a loudspeaker inside the bell, and is further processed acoustically by valve position (changes in the length of tubing filter the speaker output), movement of a plunger mute (wah-wah style filtering), and orientation of the instrument in space (panning).

Keywords: trumpet, extended instrument, Arduino, Max/MSP, improvisation, DIY.