

Push Pull – Balgerei

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Abstract: Balgerei is a performance with three similar instruments called *PushPull*. Central control element is a bellow combining inertial sensor data with mechano-analog sound input and digital synthesis. During the performance the trio touches chaotic elements as well as rhythmical patterns, while shifting between audio feedback and harmonic structures.

Moving the hand piece activates the bellow. Hand movements restricted by the limitations of the bellow turn into gestures and create air flow over a microphone. Inertial sensors in the hand piece together with a thumb stick allow for continuous sound shaping, while four buttons complete the setup to trigger changes or change between synthesis engines.

Referring in its exterior appearance to traditional instruments like the accordion as well as to a blacksmith's bellow we aimed to establish an interface triggering imagination and engagement of both, the musician and the audience, a tangible object enabling a physical relation to the created sound and necessitating a set of movement patterns¹. We think that in the characteristic air movement² and the affordances offered by the object itself lies a compelling quality of expression, which was also observed by the makers of more recent electronical instruments like the accordiatron (M. Gurevich & S. Von Muehlen) or the squeezevox [sic] (P. Cook & C. Leder, both 2000).

PushPull is the first instrument prototype created as part of the 3DMIN project. This new musical interface was originally developed for a concert at the Modality Meeting in Amsterdam (April 2014). First intended to be just a one week lasting internal workshop the set up seemed to be promising enough to develop the prototype further. So far, the ensemble performed at three occasions within Europe: Amsterdam (Modality Meeting, OT301, April 2014), Berlin (Roter Salon, Juli 2014) and Athens (ICMC, September 2014).

Keywords: instrument building, live performance, analog and digital control

¹ *The resulting playing gestures the musician experiences while playing the instrument enable communication not only with the audience (Nancy 2005: 139-150) but also serve as a pathway to the inner world of the musician herself. Or as Leman puts it: “[...] the notion of gesture provides a tool that allows a more straightforward crossing of the traditional boundary between the physical and the mental world” (Leman 2010: 13)*

² *almost like breathing in and out*

References

- Cook, P.** (2001). *Principles for designing computer music controllers*. In Proceedings of the 2001 conference on New interfaces for musical expression, Singapore, Singapore, 2001 (pp. 1 d i. National University of Singapore.
- Gurevich, Michael & Stephan von Muehlen.** *The Accordiatron: A MIDI Controller for Interactive Music*. In *Proceedings of the 2001 Conference on New Interfaces for Musical Expression*, pages 24-26. Singapore: National University of Singapore, 2001.
- Leman, Marc & Godøy, Rolf Inge.** *Musical Gestures. Sound, Movement, and Meaning*. New York: Routledge, 2010.
- Nancy, J.-L. & M. Monnier** *Allitérations*. In *Allitérations. Conversations sur la Danse*. Paris: Galilée, 2005.