

■ Elisabeth Schimana (at):
Forgotten Future #1 Magical Sound Machines

■ Halldór Úlfarsson (is):
Halldorophone

Elisabeth Schimana talks about her work with the Max Brand synthesizer, developed by the ingenious inventor Bob Moog for the visionary composer in the late 1950s and other sound producing machines from the early days of electro-acoustic music. Halldór Úlfarsson presents his acclaimed Halldorophone, an electro-acoustic string instrument in permanent development.

**Elisabeth
Schimana** (at)

IMA Institute of Media Archaeology

Forgotten Future #1 Magical Sound Machines

One day the Emperor received a large package
labeled The Nightingale.

But it was not a book. In the box was a work of art,
an artificial nightingale most like the real one.

Thirty-three times it sang the selfsame song without tiring.

Hans C. Andersen, The Nightingale, 1849

Recorders – Transmitters – Generators

Long before the advent of electrification, people began developing automatic mechanical recording devices for their musical pleasure, and the many constructions that have been built since then continue to enchant us: music boxes, barrel organs, cylinders, records, optical tapes, paper tapes, magnetic tapes and disks, and with them the accessory perforating, punching, cutting, blackening, drawing apparatuses as well as those for reading and playing back the stored data.

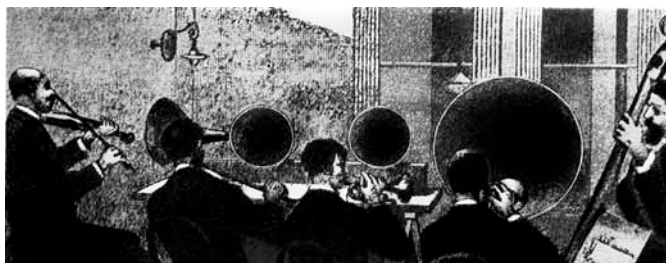


Fig. 1: Electrical sound transmission

In 1796 the Bratislava-born pianist and composer Josef Chudy staged *The Telegraph or the Long-Distance Type Writer*, an opera in one act, at a theater in Pest, with the intention of both entertaining his audience and introducing it to the optical and acoustic telegraph he had invented in 1787. This laid the foundation for electrical sound transmission. Nearly a century later in 1883, one of the main attractions at the International Electrical Exhibition in Vienna was a concert via telephone line in which the singer was in Korneuburg and the pianist in Baden. This was followed from 1885 onward by a flurry of

activity across the continents: Alexander S. Popov in Russia, Nikola Tesla and Reginald A. Fessenden in the USA and Guglielmo Marconi in England forged the way for radio signal transmission and all ideas and experiments connected with the radio.

1900 was also about the time when “by serendipity” physicists came up with the first electroacoustic sound generators. An incredible plethora of experiments produced a wide array of electric instruments, and in 1932, for example, an orchestra of the future with electric cello, trautionium, electric violin and theremin performed at the Berlin Radio Exhibition.



**Fig. 2: Exhibition
“Magical Soundmachines”**

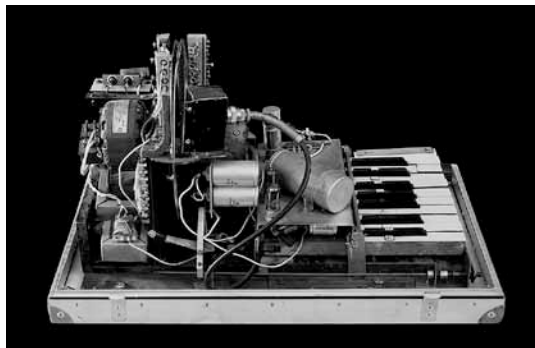


Fig. 3: Rhythmicon

In 1840 Ada Lovelace wrote the first computer program and foresaw a machine that would be capable of composing elaborate music of every degree of complexity imaginable. Binary thinking and the rasterization of the analogue world led to digitalization, the realm in which the universal machine records and transmits and generates.

For the selection of the sound machines in the exhibition “Magical Soundmachines” [1] it was especially important to us that the objects were playable, because in this neanalogue age we want to learn what these apparatuses have to tell us, what secrets they hold – we are fascinated by their sonorous materiality.

Composers, musicians, theoreticians and visitors revived selected sound machines like the Edison Home Phonograph, the Speaking Machine, the Rhythmicon, the Max Brand Synthesizer or the Akaphon on display in the exhibition and reinvented them.

The IMA Institute of Media Archaeology focuses its attention on a “forgotten future” waiting to be rediscovered, with the aim of re-examining and continuing to explore these forgotten visions.

References

[1] Exhibition organised and curated by IMA Institute of Media Archaeology at Kulturfabrik Hainburg in co-operation with the Vienna Museum of Technology September 2008 to April 2009

Briefly on Halldorophones

Text by Rune Søchting, Director of the
Nordic Sound Art M.A. Programme

Halldór Úlfarsson (is)

Artist

The Halldorophone project creates an intersection or hybrid of instrument-objects. The sound of the strings is picked up, amplified and retransmitted back into the body of the instrument thereby causing the strings to vibrate further. The result is a virtually endlessly sustained sound. Visually, the unique instrument objects are appealing, not least for the strangeness of the brutal integration of the speaker cone into the instrument itself, making them part instrument, part speaker.

At first glance the Halldorophone instruments seem to belong to the contemporary tradition of the use of feedback in music. Electronically amplified sound re-amplifying itself over and over, resulting in an ear-wrecking scream has traditionally been considered an unwanted side effect of the controlled amplification of an acoustic signal in concert, feedback has however found its place in contemporary music and constitutes its own field of artistic exploration. By nature feedback is unpredictable and unstable, it appears as a violent sonic force and once released can, at best, only be partly controlled. A prominent example is Jimi Hendrix shoving his electric guitar into the Marshall cabinets, creating a trademark impression of the violent, uncontrollable nature of the electrical guitar through feedback. Toshimaru Nakamura's work with the 'No-input Mixing Board', where the signal output of the mixer is fed directly back into the mixer, uses the feedbacking system to create an astonishing variety of sound-qualities. Composer Alvin Lucier has examined feedback in pieces such as 'I am Sitting in a Room' and the installation 'Empty Vessels', where feedback which includes the acoustics of a room creates a vibrant space that is both sonic and architectural. The Halldorophone#5 as a modification of an existing string instrument (the cello), in a way, follows the tradition of experimentation with the phenomenon of feedback. However, conceptually a much longer tradition of musical instruments is addressed with the project. The Halldorophone directly targets the process of what is electro-acoustic. It works with acoustics within the tradition of (pre-electric) hollow-bodied string-instruments and then integrates the process of pickup



and electrical augmentation of the acoustic resonance into the resonating body itself thereby creating the possibility of an endless reflection of the acoustic signal.

Now the question of the use of the instrument arises. A traditional acoustic instrument is played by the trained movements of the instrumentalist. By virtue of an intimate understanding of the resonant behavior of the instrument, the skilled instrumentalist is able to extract a wide range of sounds from the instrument body. The electronic amplification of the sound is traditionally only a secondary process that serves to amplify the existing qualities. With the Halldorophone, however, the process of amplification is paradoxically integrated into the sound-making itself. By playing the instrument the unstable feedback-process is triggered. The acoustic sound is played back into the instrument itself and an endless electro-acoustic loop is created. The instrument creates a feedback-reflection of its own sound – a reflection that can not be played in the strictest sense but only partly controlled.

<http://www.halldorulfarsson.info/halldorophone5>