

# Maailmankaikkeus

all that is part of the world

Durational Performance Series of Media and Machines  
12.10.2018-09.02.2019

with  
**Dominik Eggermann**  
**Antti Pussinen**  
**Wolfgang Spahn**

curated by  
**Baruch Gottlieb**

Maailmankaikkeus - all that is part of the world” is a new durational performative audiovisual installation series in four parts from Berlin-based media artists Antti Pussinen, Wolfgang Spahn and Dominik Eggermann.

## **Introduction: Concept and Structure**

According to contemporary astro-physics, our universe is expanding outward from an original explosion 14 trillion years ago. Eventually, this expansion will reach its apogee and a contraction will begin. This cosmology of extreme distances and times is difficult for an ordinary human to comprehend, yet it is foundational for our understanding of our world today, and principles from this understanding underpin the science which provides the advanced computer technologies we use to communicate and to make art. Our durational media-apparatus performance series will attempt to recount this extremely long narrative arc, the story of our universe over four months, in four sections.

- Big Bang (the beginning)
- Expansion (today)
- Apogee (balance)
- Contraction (Big Crunch)

The technical and artistic approach in **Maailmankaikkeus** is an artistic remediation of the cosmic background radiation we know from the last century of analog television sets and radio. The starting point for our process is an effect of decaying technology; the dead pixels in video projectors which look like a starry sky, random, but clustered. When starting to design the automatic actors for our performance/installation we realized that the star artifacts led us towards building images and processes of the universe using light, sound, and mechanisms of various kinds. Our mis-en-scène uses analog electronics designed and built by artists. In a sense, we build a physical modeling system using quantum physics (micro and nanoscale) to build artistic visions and models of the physical universe (macro and giga scale).

## **Presentation of the performative Installations**

The performative installations are designed to be seen from outside, through a large-scale teleidoscope. The shattered reflections form a second space, that is between the window and the interior of the gallery. Entering the gallery, one enters a different version of the same space seen from outside, where the magic and structure behind our universe is revealed.

All the electronics, equipment and machinery making the up the audiovisual content is displayed on a pedestal close to the teleidoscope, so everything that is part of our world is part of the visual space fabric of the artwork.

The sound of the installation can be heard through an audio stream over a smartphone or with a radio receiver, using a small fm micro transmitter. The link to the stream and the frequency to listen to are presented on the window.

### **Workshop Series**

Antti Pussinen and Wolfgang Spahn will hold a series of workshops where they explain and build some parts of the circuitry. These workshops coincide with the changing of the installations. The circuitry is open source and all the information can be found also at the workshop wiki collection @ [www.dernulleffekt.de](http://www.dernulleffekt.de) The workshops cost 40 euros to attend plus material costs. All the designs for the artistic circuits used in the series are open source and will be available for free to download.

### **Diode Wavefolder:**

A Paper Synthesizer module for folding background waves.

### **Electric Intonarumori:**

A Paper Synthesizer module for generating cosmic background radiation.

Artistic Concept:

**Physical Cosmologies:** Remediation of Background radiation

### **Vestigial Cosmology**

Cosmic background radiation *or relic radiation* is something that is surrounding us all the time. Before the digital revolution of television and radio, we were in touch with this broadband of chaotic and random radiating energy. The static heard when tuning in between radio stations, or the static of an untuned tv channel is a window to a narrow range of this energy. This window is now closing because of the prevalence of digital content in transmission technologies.

### **Synthetic Cosmology**

In the installation, we retrieve this display of relic radiation. This is done by using decaying and dying technologies: Vga video signal to access and manipulate video signals, CRT tube televisions modified to draw audio waveforms and analog audio synthesis. These circuits are susceptible to interference from radiating energy and thus make the relic radiation visible and audible in the noises, quirks and particularities of the composition.

Sound signals are used directly to draw the visuals, video signals are used to make the sounds. This is possible because the difference between an audio and video signal is only the frequency range that they are usually employed for. By shifting the frequency ranges of the analog signals, we can work with a direct (proportional) correspondence between the audio and video material we generate.

Chaotic electric waves created in the magnetic fields of the servo and stepper motors are a byproduct of the movement of the visuals. These waves are used as an important part of the sound fabric, and to contrast with the droning sounds of analog oscillators and video transferred into sound.

This artificial relic radiation will be now remediated. The sound and visual approach will be streamed in real time and therefore accessible everywhere on our contemporary devices. This is also the way to listen to the audio part of the installations since there will be no sounds played on to the street from the installations. The sound can be also heard using a normal fm radio receiver for a more consistent analog experience.

### **Code Cosmology**

According to contemporary cosmology, the universe came to be because of a little asymmetry in the distribution of matter and anti-matter. The composition and libretto of the acts of the installation are governed by a generative code with an initial asymmetry written into it. This "fault" will accumulate over time creating more and more complex seemingly random structures.

These structures will expand until they reach crossing point, the apogee of the expansion of the universe, from where on the process will start to collapse back to itself, in the end creating a chaotic ending of all.

## **The four stages of the series**

### **Big Bang**

The master code starts from an asymmetric starting point, creating a rapidly complexifying construction of numbers, that are then used to control the parameters of the installation machinery. This section attempts to navigate the tricky problems of information overload, approximation, probability and truncation error. When we look back to the beginning of the universe, how can we discern the information from the noise? Or is there no noise and only information? This section navigates the question of how to understand technical data from the furthest past.

### **The Expansion**

Since the coded system is now more complex, it continues expanding and accumulating but now at a slower pace. The control parameters form clusters that are easier to tell apart from one another. This is also reflected in the audiovisual esthetics of the installation. Our current existence, our situation on the planet Earth is represented here as a negentropic anomaly in the flux of cosmic expansion. Where are we? Where are we going? How to understand direction, progress, future, when your point of view itself is in flux? In a scientific age, we must face these questions. Our performance will attempt to dramatize our dilemma.

### **Apogee**

The expansion of the control data slows down and stops completely making for a moment where everything just is. This is a period of minimal change, a moment of peace, and death-like stasis. Does change feel more palpable when the changes are smaller? Since the apogee will last millions of years we can extract a period of the smallest changes, and speculate about the most delicate fluctuations.

### **Collapse**

As the universe contracts, completing the cycle, matter begins to inexorably fall together ever faster. The code systems start to unravel, fall apart and then collapse back into a simpler and simpler number set. This development accelerates towards the end. The installation ends with a chaotic and cacophonous big crunch to silence and darkness. Is it a Big Crunch, or a Big Bounce? A finisage is arranged to celebrate the ending of our universe, and probabilistically the birth of a new one.

### **Relation to previous work of the artists:**

**Wolfgang Spahn** has been a well-known hardware-hacking artist building unusual machines and developing his own circuit designs for more than two decades. He performs with his devices and makes gallery installation works. He has been working with the properties of analog computation for generating "true-random" and chance operations for many years.

<http://wolfgang-spahn.de/Index.html>

<http://dernulleffekt.de/doku.php>

**Antti Pussinen** is a sound and visual artist working with a broad spectrum of mediums. He is an expert of analog synthesizer design and theory. His recent artworks, he has played with the concept synthesizing natural phenomenon involving waves and frequencies. He's artworks have been shown for example in Kiasma contemporary art museum in Helsinki, Finland, Center for Architecture in New York, USA, in the art museums of cities of Tampere, Hyvinkää, Rovaniemi, and Kuopio, and in various galleries and events.

<http://www.anttipussinen.net/>

**Dominik Eggermann** is a painter and computational coding artist and expert at unstable mathematical systems and chaos theory.

<http://mybrother.tv/>

### **CURATOR**

**Baruch Gottlieb** is a Canada-born media artist exploring navigable fiction and documentary and an active member of the Telekommunisten Network. His work's focus is the industrialization of the subject of industrially-produced media. He lectures in digital aesthetics at the Studium Generale of the University of Arts, Berlin. He is the curator of the traveling exhibition *Bodenlos: Vilém Flusser and the Arts, and FEEDBACK: Marshall McLuhan and the Arts*. His latest book *A Political Economy of the Smallest Things* explores the reproduction of digital information at the nano-scale.

## **ABOUT DISKURS Berlin**

DISKURS Berlin (project space & residency program) presents an international program of exhibitions and simultaneously acts as a discussion platform. It focuses on an international curatorial exchange program, collaborates with public and private institutions, manages projects, offers training opportunities and a research program for international curators.

DISKURS Berlin acts as a liaison between institutions, artists, curators, and collectors in Germany and Asia, particularly in Korea. For some years now, major biennials have been organized in Korea; the Gwangju Biennial, the Busan Biennial, and the Mediacity Seoul. These are not only regarded as important events in Asia, but also in the Western art world. In addition, there is a growing interest in Korea for the establishment of museums of contemporary art, off-space galleries, and artist residency programs in larger cities. Since the end of the crisis in the world economy, the outlook for realizing such projects is better than ever before. As a negotiator and a facilitator of exchange between Germany and Korea, DISKURS Berlin's mission is to achieve structural improvements within the art scene, to organize contacts and to establish a network of artists, curators, art theorists, and art scholars.

## **Maailmankaikkeus**

<http://maailmankaikkeus.dernulleffekt.de/>



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