

Event Two SoundPod – Programme Notes:

Contemporary works responding to the theme of cybernetics

1. Jon Weinel – *Surfer Stem* (7 minutes 9 seconds) (2010)

Surfer Stem is one of the compositions produced as part of my PhD research, regarding electroacoustic music and altered states of consciousness. This research explored compositional strategies to elicit altered states of consciousness through computer music, where the design of sonic materials and structure are based on the typical form of hallucinations. Taking inspiration from flashcore music, William Gibson's *Neuromancer* (1984), and Timothy Leary's (1968) description of an 'atomic electronic level consciousness', *Surfer Stem* is based on the idea of a futuristic altered state of consciousness that takes place in the digital environments of virtual reality. Utilising my own generative software patches and techniques such as granular synthesis, together with digitally transformed sounds from surf rock n' roll music, the piece depicts a synesthetic high contrast beach hallucination that extends into an infinite hyperreality.

2. Diagnostic / Jan Robbe – *Meta-Language* (12 minutes 20 seconds) (2019)

Meta-Language was conceived of through the patching of non-linear feedback networks, using modular synthesis. These networks are evolving autonomously (generatively). At times they are also guided through real-time interaction via live performance. Audio-rate modulation and self-modulating control signals can quickly turn a modular setup into a dynamic, chaotic system. Out of chaos emerges complexity. The sound becomes "alive", constantly reorganizing, evolving the micro- and macro-structure of the composition. The result is ever-changing sounds and textures, self-expression in a syntax that is entirely abstract yet meaningful as a sonic environment, or indeed, as a musical context.

3. Mark Pilkington – *Agora* (10 minutes 40 seconds) (2019)

Agora is a generative piece of electroacoustic music that combines analog and digital audio technologies. A number of sonic patterns were formed by live coding an algorithm to create various types of automated process of music composition. These generative processes act as a mediating form to interconnect in the development of machine musicianship and interactive music. Through the application of generative processes we become the primary authors of our own digital paradigm – beyond interfaces and cultural norms. The formation of algorithmic design questions preconceived ideas of music to reveal uncharted territories of space. Investigating new forms of matter through algorithms results in an incomplete and emergent discourse. *Agora* addresses these concerns by creating a situation where real-time sound transformations are linked to the systematic design of human interaction. The process becomes a 'simulation of models' (Baudrillard, 1994) that places sound as a navigating medium of expression to question the wider concerns of visual dominance.

4. Rajmil Fischman – *Erwin's Playground* (9 minutes 12 seconds) (2001)

The name of this work is an allusion to Erwin Schrödinger – one of the pioneers of quantum mechanics – and his imaginary field of action; namely, the inner shells of the atom. Its musical material and its structure arise from the solutions and implications of an equation discovered by Schrödinger, which became a well known cornerstone of Quantum Mechanics and succeeded in explaining for the first time the structure of the Periodic Table of Elements. The structure of *Erwin's Playground* is modelled on a survey through various atomic energy levels, or shells, predicted by the equation: it begins at the lowest energy level, leaps to higher shells as this energy increases, reaches a maximum and then descends back, decreasing its energy until it reaches the lowest shell again. This may also be viewed as an excursion through the Periodic Table of Elements according to ascending order of atomic number, followed by a corresponding descent. The sonic material is generated by applying the probability distributions obtained from Schrödinger's equation to granular techniques, which are ideally suited for stochastic processing of musical material.

5. Palle Dahlstedt – *Counters and Listeners* (9 minutes 30 seconds) (2019)

Four sonic puppets perform as a percussion quartet. They can count, and they listen to each other. Counting (backwards) measures time, and listening takes place in the form of exchanges of numbers, pitches and patterns between them, through cute little algebraic formulae, a.k.a. puppet personal taste. The quartet always perform in the presence of the puppeteer, who may occasionally tell them to change their behavior, rush them when they get lazy, or wake them up when they fall asleep. This piece is an example of the kind of complexity that can emerge from a rather small system when its parts are interconnected. Each puppet is really just a simple automata controlling a most basic kind of percussion synthesizer. It receives numerical inputs from its three peers, and plays a note when its counter reaches zero. Depending on the parameters for the algebraic interaction formulae, very different behavior emerges. This parameter space was explored using interactive evolutionary algorithms, i.e., no knobs were turned, but ears were used to find and control interesting behaviors.

6. Jose Macabre – *Flow Ritual (Part #1)* (11 minutes 44 seconds) (2019)

Flow Ritual aims to achieve a heightened state of awareness for the listener, away from the mundane. It could be understood as a conversation with your soul; a drill into the unconscious mind; or an immersive journey into the non-material world. This piece was originally conceived to provide the sonic component of Kimatica Studio's performance art piece *Transcendence*, which integrates dance, motion-tracking and video mapping to elicit a modern sense of ritual, revealing an altered states of consciousness or transcendent otherness for the audience. Just as the *Transcendence* performances seek to rekindle ancient forms of shamanic experience, but do so through modern technological means, *Flow Ritual* addresses these priorities through electronic means of audio production and computational frequency manipulation. Here, the materials presented have been remixed and revised for *Event Two*, providing a new variation of the work that seeks to immerse the listener in a ritualistic sonic experience.

7. La Peste / Laurent Mialon – *Cogito Ergo CheckSum* (12 minutes 15 seconds) (2019)

When completing *Cogito Ergo CheckSum*, I had a strange dream, in which a person said to me: "I was glad to meet La Peste when he was still alive". This had a definitive impact on the last touches of this piece, in which I am literally playing with tools manipulating some frequencies in the audio range, in the very universal context of being simply aware of the short lifetime window to explore this multiverse. Every single audio structure here has been originally created using generative devices, such as statistical distribution laws and logic gates. I have allowed the computer tools do their job in the beginning, but also later in the composition process, randomising, for instance, the playback position on the timeline. After any of such processes, I had to face the results and deal with them. The title of the piece: *Cogito Ergo CheckSum*, refers to these very personal moments, left alone within the data matrix provided by the computer, checking the array of MIDI notes or CCs, using the tools again to make some choices, filtering the sum of events, and so on. I love how 'sum' more or less sounds in my native language: Nous *sommes* la *somme* de vérification, en fin de compte. Unlike hard drives with virtually unlimited life span, we need to come up with a finite amount of events – it goes way beyond simulating the lethal stress – it's a way to intimate, your death is yours. That is also why, during the composition process I have sometimes made a brutal dive into a remote path proposed by the computer, accepting any fracture as a potential new structure. As in theoretical physics, I like the idea that you have to consider going within the most infinitesimal irregularity to find something.

Works from the original *Cybernetic Serendipity LP (1968)*

8. Lejaren Hiller And Leonard Isaacson – *Illiad Suite (Experiment 4)* (3 minutes 12 seconds) (1957)

Computer composed, played by the Illinois Composition String Quarter. Experiment 4, the last movement of the *Illiad Suite*, is a direct transcription of the computer output. The compositional procedures are a development of those used in the preceding movements, which progress from simple cantus firmus through counterpoint to increasing randomness.

9. John Cage – *Cartridge Music (Excerpt)* (5 minutes 3 seconds) (1960)

Performed by John Cage and David Tudor, this piece makes use of gramophone cartridges, which are allowed to make contact with various textured surfaces thus producing impulses, which can be amplified. The recording is a superimposition of two performances. "The objectives that were uppermost in my mind when I supplied the material for *Cartridge Music*, were to bring about a situation where any determinations made by a performer would not necessarily be realisable. When, for instance, one of the performers changes a volume control, lowering it nearly to zero, the other performers' action, if it is affected by that particular amplification system, is inaudible. I had been concerned with music that was indeterminate of its performance; but in this instance, performance is made, so to say, indeterminate itself".

10. Iannis Xenakis – *Strategie (Excerpt)* (4 minutes 48 seconds) (1962)

This composition employs the theory of games to set up a competition in performance. There are two orchestras and two conductors arranged back to back. Each conductor can choose from one or more of the sections of the composition and play it for an indeterminate time. At each successive choice by either conductor a score is computer and added to a total on a scoreboard visible to the audience. After a while one of the conductors is declared the winner of the contest. Scores are achieved by consulting matrices constructed by Xenakis, which assign weights to six basic tactics, to silence, and to combinations of tactics. The basic tactics are: 1) wind instruments, 2) percussion, 3) string instruments struck by hand, 4) pointillistic playing of string instruments, 5) string glissandi, 6) sustained string harmonics. The score for each tactic was compiled from material generated by an IBM 7090 computer.

11. J.K. Randall – *Mudgett (Excerpt)* (6 minutes 51 seconds) (1965)

The two completed movements of this work were commissioned by the Fromm Foundation for performance at Tanglewood in August 1965. The movements are entitled: 'Monologues by a mass murderer (for pre-recorded female voice and converted digital tape)' and 'Toronto (I leave my recently adopted children Alice and Nellie at 16 Saint Vincent Street)'. The piece was recorded with vocalist Melinda Kessler. The digital tape was produced on the IBM 7094 computer at Princeton University's Computer Centre, and was converted to analogue form at Bell Telephone Laboratories.

12. Gerald Strang – *Composition 3* (2 minutes 6 seconds) (1966)

The composer designs an 'orchestra' made of 'instruments' which are computer subroutines. Each instrument accepts input data (such as pitch, loudness, tone quality, attack-decay patterns, duration, rhythm, rests) in numerical form, combines and processes these data, and produces a succession of instantaneous output values. The instantaneous output values of all the instruments are added to form 'samples'. The original programme produced 10,000 samples per second; the UCLA version operates as high as 25,000 samples per second. The usable bandwidth is slightly less than half the sample frequency. The composer can store a single cycle of any waveform (sound quality) that can be described in terms of amplitude vs. time, including a Fourier synthesis (fundamental-plus-overtone complex). The computer can then repeat it at any desired frequency. Any parameter can be systematically manipulated, modified, permuted or elaborated by supplying appropriate instructions. Sound is produced by feeding the computer output to a digital-to-analogue converter, which converts the numerical values to a varying voltage. This voltage resembles the signal produced by a microphone. It may be amplified and recorded on tape in the same way.

13. Haruki Tsuchiya – *Bit Music (Excerpt)* (2 minutes 36 seconds) (1967)

Computer generated and played composition, by Haruki Tsuchiya, Computer Technique Group, Tokyo, 1967–1968. Stereo audio was directly recorded onto tape from a plotter according to the programme of the computer graphic 'The Individualisation Age'.

14. Peter Zinovieff – *January Tensions* (9 minutes 26 seconds) (1968)

This piece is very much for computer both in its realisation and composition. The rules are straightforward. The computer may begin by improvising slowly on whatever material it first chooses. However, once the initial choices are made then these must influence the whole of the rest of the composition. The original sounds must occasionally be remembered and illustrated but a more and more rigid structure is imposed on the randomness. Tensions are created by programme and in fact the whole progression is in almost Sonata form. In this particular realisation it so happened that reverberation was slowly imposed onto filtered noise, which was then directed towards exact pitches. These finally formed the basis of the whole piece. A rough fragmentation was accepted so that there appear to be well-defined movements. The piece was electronically realised and composed in real time by an 8K PDP9/S and electronic music peripherals.

15. Herbert Brün – *Infraudibles* (8 minutes 24 seconds) (1968)

Substituting the addition of periods for the modulation of frequencies, the composer is able to extend the time and duration control he applies to the macro-events of his composition also to the infrastructure of the event-forming sounds. Thus, 'pitch' becomes a result of composition instead of functioning as an element. The same holds true for the concept of sound timbre. This recording was made during the first performance of *Infraudibles*, at a concert of Music Composed with the Assistance of Computers, held at the ICA on August 29th, 1968. The performers were: Evan Parker – saxophone, Richard Howe - french horn, Derek Bailey – electric guitar, Gavin Bryars - double bass, Bernard Rands – cimbalum.