AGGREGAT

a kinetic multichannel sound installation

The project 'Aggregat' is a kinetic audio-installation that contains works by a group of artists all active within the context of the ICST, the Institute for Computer Music and Sound Technology of the Zurich University of the Arts.

The central aspects explored by the works is the notion of sound and movement in body-object relationships and concrete materiality.

The sound-works in the aggregate installation cover thematic approaches such as 'choreography' of sound and movement, social and group behaviours, synchronisation of media and senses, spatiality in a real space, and figure-ground relationships between physical and sound movement. The micro-society represented by the speaker aggregate reflects the multi-perspective nature of the artist group engaged in this joint installation.

An important specificity of the collection of works present in the installation lies in the overlap of disciplines, methods, points of view and artistic domains. A common concern in the artistic practices of all participants are topics of systemic development, behavioural modelling, and algorithm-driven generative compositions.

This multi-perspective 'aggregate' represents a blend of systematic approaches using formalised technical processes with poetic potentials developed through and expressed by the corporeality of the speaker-figures and in particular through the dialogue within the gallery space between audience members and the speaker chorus.

Each artist's work is intimately linked with their research activities at ICST, and can be situated at the intersections between the empirical, objective approaches of research and experiential and singular processes of artistic work, thus delineating the intersection of art and science. The artists Daniel Bisig, (Medusa Cramer), Tobias Gerber, Philippe Kocher, Marcus Maeder and Jan Schacher are artists and composers who are well established in the international media arts and new music contexts.

http://aggregat.zhdk.ch

Aggregat (German)
In the social sciences: a gathering of people in a cluster or a crowd that do not form a true social group
In Buddhism: refers to a category of sensory experiences
In materials science: a component of a composite material used to resist compressive stresses
In music: a set of all twelve pitch classes, also know as the total chromatic
Source: Wikipedia (En: Aggregate)
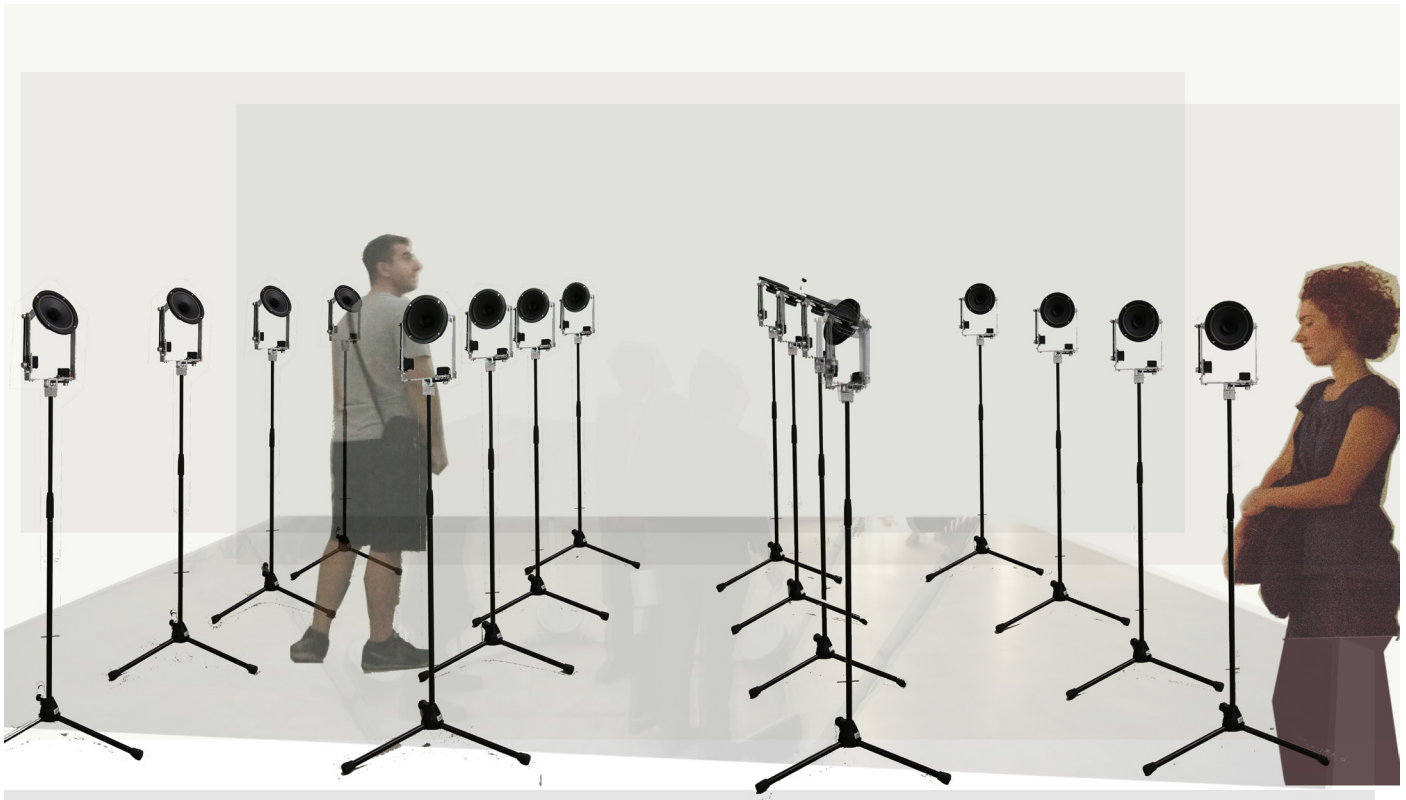
The installation is best perceived by entering into the grid and walking among the speakers.

The Works

In the installation the pieces are presented in random order:

Magnets
Daniel Bisig, Jan Schacher

Magnets is a generative piece in which individual loudspeakers assume the behaviours of magnets. Their movements are controlled by forces of attraction and repulsion. The sonic characteristics of the magnets depend on their respective orientations. Sudden spontaneous movements of a few magnets give rise to a burst of activity and sonic shifts that propagates through the entire installation.
The sound world follows the activity of the magnets. It scans across musical material, with string and prepared piano sounds becoming fragmented and suspended in a vibrating cloud of sound. The activity propagates across the speakers in waves that are visible both in movement and sound.

The Left-Hand Path
Medusa Cramer

The question as to what today's enlightenment processes should look like – referring to the processes for raising awareness in society with a view to exposing and dismantling the existing power structures – requires an urgent answer. The Left-Hand Path system is associated with a diabolic figure, which manifests itself as enlightenment in its purest form, as an antagonist, as a rebel and as symbol of polemic and failure, urging listeners, in specific terms, quite simply to challenge the established ways of thinking, as Kant put it in his maxim Sapere aude! Have courage to use your own reason! On the Left-Hand Path, several fundamental enlightenment-seeking questions arise: What society do we live in? Are we content with our current way of life? How can we determine our own destiny? In the audio play, these questions are posed by individuals characterised by having an oppositional attitude towards their environment: artists, radicals, intellectuals, sectarian gurus, alcoholics, the exploited and supporters of an alternative society. The Left-Hand Path is like a maze: a broad range of views are expressed, but which lines of thought lead out of dead ends? Can listeners find their way out of this maze of thought? http://www.thelefthandpath.net/?page_id=149

as if – notions of there
Tobias Gerber

»as if – notions of there« is a spatial-kinetic composition, that mainly uses concrete sounds originating from an instrumental translation of field recordings. Within the Aggregat installation the chain of sequential sonic 'depictions', changes of media and translations of a real situation finds a crystallisation as a further stage: while the originally refer- enced 'object' has almost completely vanished, the work creates a sonic and social situation that potentially becomes in itself another point in a chain of references. This realisation is closer to the original situation than one might think.

Speak Up
Philippe Kocher

The speakers emit, one after another, abstract yet - in their speech-likeness - oddly meaningful sounds. It's as if they were individuals attempting to express themselves.
The appearance of this assembly of movable speakers evokes two different interpretations. On the one hand, we perceive the mechanical, scientific and inanimate nature of the devices. On the other hand, we easily tend to anthropo- morphize them and regard the speakers as robots with a personality. The sound installation 'Speak Up' deals with this multiple meaning. It takes a playful, even humorous approach to address this contrast between the rational and the irrational understanding of such a technology.
The sound production is entirely computer-generated: all sound synthesis parameters are controlled algorithmically, partly by random processes, partly by several determined cyclic patterns that run at different speeds. The musical fore- ground consists of phrases that resemble spoken utterances, or possibly birdcalls, and therefore create a peculiar kind of expressiveness. Theses phrases are always assigned to one single speaker and coupled with a movement of "raising and turning the head". This combination of sound and movement emphasizes in a simple but effective way the intend- ed humanisation of the speakers. The musical background is a quiet, slowly changing but in itself fairly differentiated sound texture that is played on all speakers.

Neurons
Martin Neukom with Marcus Maeder

In our contribution for ICST's Aggregat, we created an imaginary, sounding neuron model. The loudspeakers of the system behave like integrate-and-fire-neurons. Starting from a neutral mode, their excitation increases constantly until it reaches a threshold: They fire then to a selected other neuron. The excitation of the neurons is realized with sonic spikes that emerge from colored noise, as well as the tilt position of the loudspeakers. Each loudspeaker (each neutron) shows an individual behavior with an individual frequency band and individual speed parameters within the

accumulation of its excitation, as well as the character of the sonic spikes. During firing, the excitation of each neuron decreases to a minimum value and a certain amount of the excitation and the frequencies of the band are being transferred to the chosen partner neuron, which reduces the amount of frequency bands within the system. Such (possible) chain reactions lead to a quietening of certain parts or the whole system. Our work Neurons can be interpreted as a simple network of neurons or a small population of entities, where certain properties spread (i. e. diseases, aggressions, opinions etc.).

Nothing Exists...
Jan Schacher

This composition explores multiplicities of voices, polyphonies, through layering and juxtaposition of movements and sonic spaces. The stage in the 'Aggregat' is set for the speakers to have characters of their own, to become figures with their own voices, as if in a society of speaking beings. Over time monologues and dialogues develop, affirmations are made, dreamlike inner voices appear that seem lost in thoughts.
The voices and sounds move through the grid and by the movement-patterns and 'choreographies' immerse the listeners, taunt and encircle and possibly compel them to move among the speaker-figures, in order to change perspective or listen more closely to individual sounds.
Evolving through sonic scenes an abstract story is evoked, told and lived. The three female performers become present through the immediacy and corporeality of their voices. The intimacy of these voices and their closeness has the potential to touch the listener and put her into states of sound, music, and altered listening.
Word fragments evoke these states: The body in a state of music, the desiring body, the madness of being immersed in sound and music.
The quotes are by Roland Barthes: "Nothing exists, save desire" (from *Fragments d'un discours amoureux*),
and "la musique une folie – pénétrée de désir – le corps en état de musique" (from *Rasch*).
More words appear loosely and map out poetic and imaginary territories.

The piece was composed with the voices of:
Sarah Swinwood, **Kornelia Bruggmann**, and **Alexandra Frosio**.

The Artists

Daniel Bisig holds a Master's and PhD degree in Natural Sciences. He is active as a researcher and artist in the fields of artificial live and generative art. He has realised several algorithmic films, interactive installations and audio-visual performances, some of them in collaboration with musicians and choreographers. The derivation of generative algorithms and interaction techniques from biomimetic simulations forms a central aspect of his work. Daniel Bisig currently works as a Research Associate at the Institute for Computer Music and Sound Technology ICST of the Zurich University of the Arts.
http://bitingbit.org http://swarms.cc

Medusa Cramer is the spirit of antimatter, the Parashurama. Born in the coolness of at-rest data storage units, she lives on both sides of the digital mirror. Her crawl through the thicket of reality- access options leads her to encounters of various sorts, all well-documented on her blog and podcast Avataradio. Medusa is an active participant in various radio play projects, besides manning graphics for all domizil releases and publications. http://www.domizil.ch/medusacramer.htm

Tobias Gerber is a musician, journalist and organizer in the context of new and experimental music. He's member and artistic director of the swiss ensemble WERKTAG – an instrumental trio that works extensively with the possibilities of live-electronics and premiered (and will premiere) pieces by Antonie Chessex, Alex Buess, Gary Berger, Ernstalbrecht Stiebler, Anna Trauffer, Luc Döbereiner and others. He studied Saxophone and Art Theory at the Zurich University of the Arts and his artistic and theoretical interests lay in contemporary practices connected to sound as a culturally meaningful medium.
http://www.siliconcap.net (under construcion)

Philippe Kocher, Musician. Composer. Researcher, studied piano, electroacoustic music, music theory, composition and musicology in Zurich, Basel, London and Bern. His work encompasses instrumental and electroacoustic music as well as sound installations. His artistic and scientific interests lay in algorithmic composition and computer generated music and art. Philippe works at the Institute for Computermusic and Sound Technology (ICST) in Zurich as research associate and software developer as well as at the Zurich University of the Arts as lecturer for music theory and computer music.
http://www.philippekocher.ch

Martin Neukom studied Musicology, Mathematics and Psychology at the University of Zurich and Music Theory at the Musikhochschule Zürich. He is engaged in sound synthesis and composition with computers. Neukom wrote the book "Signale, Systeme und Klangsynthese – Grundlagen der Computermusik", which was accepted as his doctoral thesis by the University of Zurich and translated by Gerald Bennett into English under the title "Signals, Systems and Sound Synthesis". He works as a lecturer for Music tTheory and as a research associate at the Institute for Computer Music and Sound Technology ICST of the Zurich University of the Arts.
www.domizil.ch/neukom.html

Marcus Maeder is a sound artist and composer. He studied Art at the University of Applied Sciences and Arts of Lucerne and is currently pursuing a Master's degree in Philosophy at the University of Hagen. Maeder runs the music label domizil, which he co-founded in 1996 with Bernd Schurer. As an author, Maeder has written on a number of topics in the fields of sound art and digital media.
www.domizil.ch/marcus_maeder

Jan Schacher is a musician and researcher active in exploratory, open forms of music performance. His main focus lies on works that combine technology and gestural or movement interactions, both on stage, in installations and fixed-media audio-visual works. He has been invited as artist, lecturer and researcher to numerous institutions and has presented installations, screenings, and performances worldwide. In addition to his artistic work, Jan Schacher holds a position as a Research Associate at the Institute for Computer Music and Sound Technology ICST of the Zurich University of the Arts and is currently pursuing a Doctorate in the Arts at the Royal Conservatoire Antwerp and the Orpheus Instituut in Ghent, Belgium.
http://www.jasch.ch

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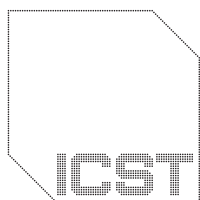
Institute for Computer Music and Sound Technology

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