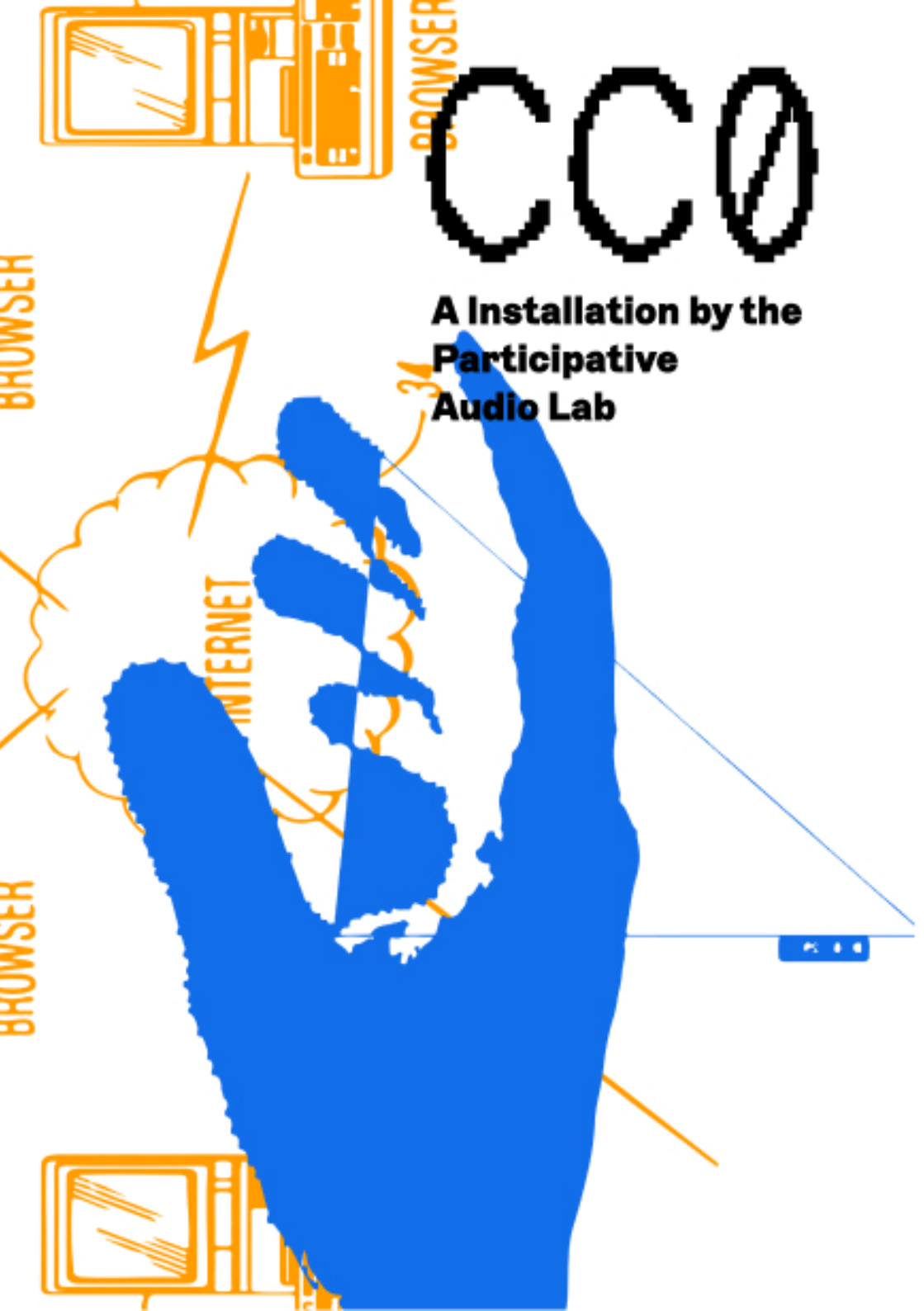
CC0

A Installation by the Participative Audio Lab



CC0

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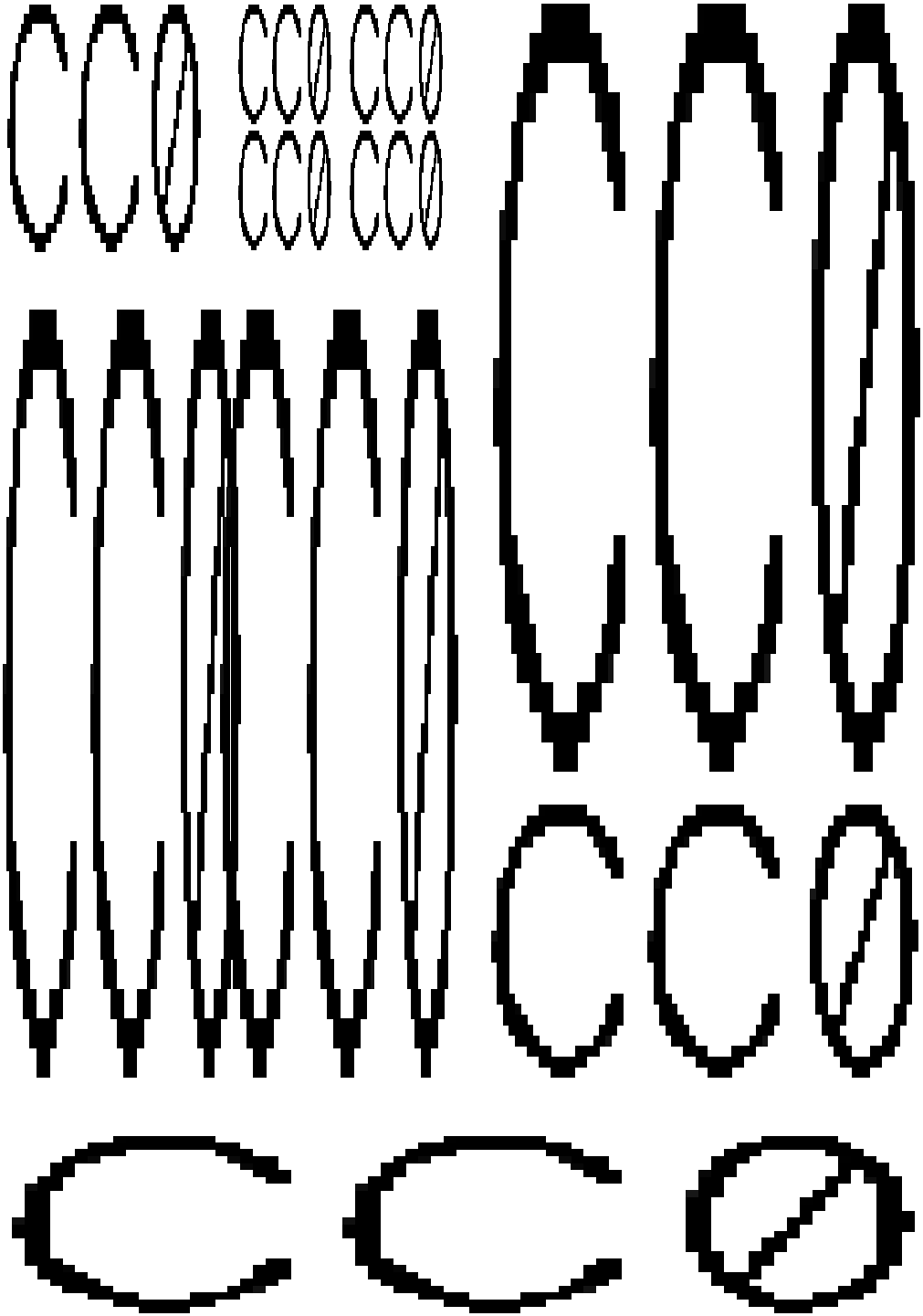


No one knows everything, everyone knows something, and all knowledge resides in humanity… New communications systems should provide community members with the means to coordinate their interactions within the same virtual universe of knowledge.

Collective Intelligence — Pierre Lévy, 1994

CCO (Collective Control 0) is a system for live collective composition existing in Berlin within HAU2 and also anywhere through the portal participativeaudiolab.com

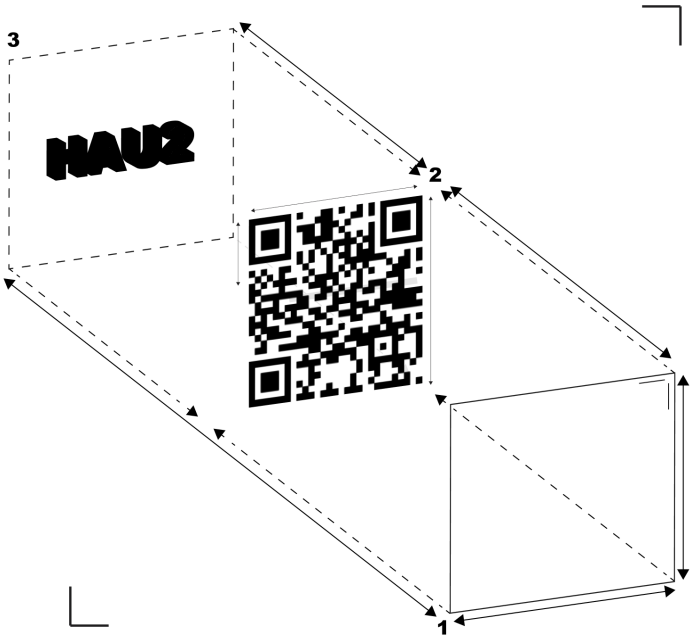
It has been designed to enable distributed control to the public through physical and digital instruments which directly condition the system's motion, sound, and structure.

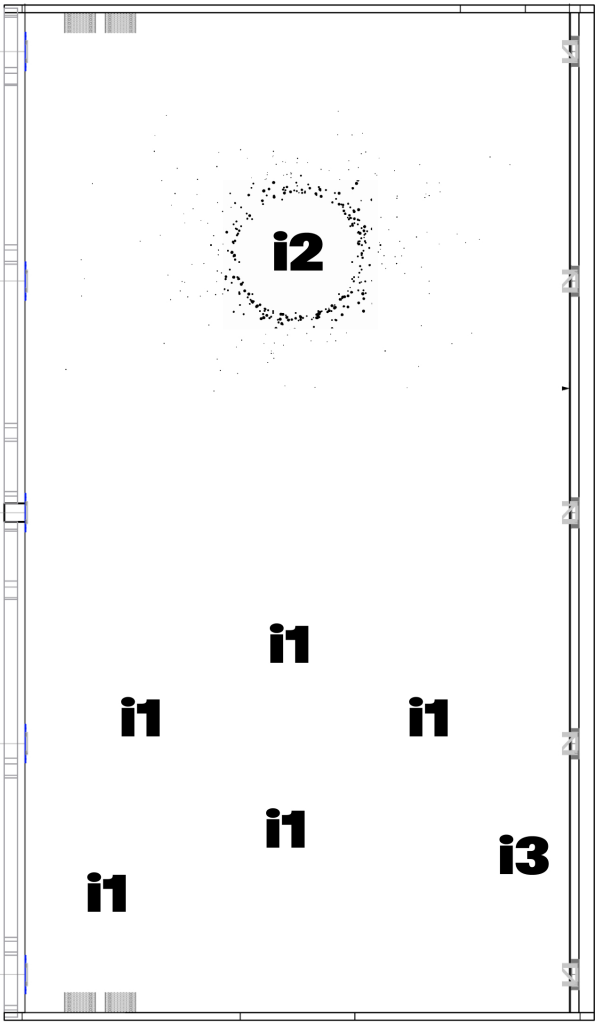
CCO was conceived and developed through an open creative process in the shape of a hackathon. Three instruments for collective creation were conceived: "The Forum, Pendulum, Pulse".

CCO marks the inauguration of PAL (Participative Audio Lab), a initiative aimed at the development of open-source tools to allow artists to create and distribute their own participative musical experiences. On a broader scale, PAL aims to harvest a culture of open creation.

PAL was initiated thanks to support from the initiative »Prototyping Sonic Institutions« organised by Black Swan and CTM Festival 2022. Employing decentralised autonomous organisation (DAO) infrastructure and thinking, Black Swan engaged with a number of resource-pledging silent stakeholders to explore new ways of supporting the creation of artistic works.

CC0
USER GUIDE

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i1
i1
i1
i1
i3
i1
ENTRANCE

i1 THE FORUM

i2 THE PENDULUM

i3 THE PULSE

THE FORUM

Transparent plexiglass panels, public thoughts, transducer speakers, max msp, peer to peer network, remote server, web audio recording program.

The forum is a public domain of reflection. Activate it by getting close to the panels and releasing your own

thoughts, questions, affirmations, decisions, convictions

Expect a cue before you can hear an echo of your own

Using a local network of microphones, the forum takes a breath from you and stores it in a pool of collective memories. Every question, idea, affirmation, conviction and decision will be set in a cue until the last voice is done expanding.

> ***"In the final stage of his "liberation" and emancipation through the networks, screens and technologies, the modern individual becomes a fractal subject, both subdivisible to infinity and indivisible, closed on himself and doomed to endless identity. In a sense, the perfect subject, the subject without other- whose individuation is not at all contradictory with mass status."***
>
> **Jean Baudrillard[1]**

Without missing on the potential of today's network infrastructure, "The Forum" is a revalorization of the voices lost in a sea of commodified attention and algorithmic relationships. Moreover, an exploration and open evidence of individualized agency transformed into public care. Each voice takes its own space.

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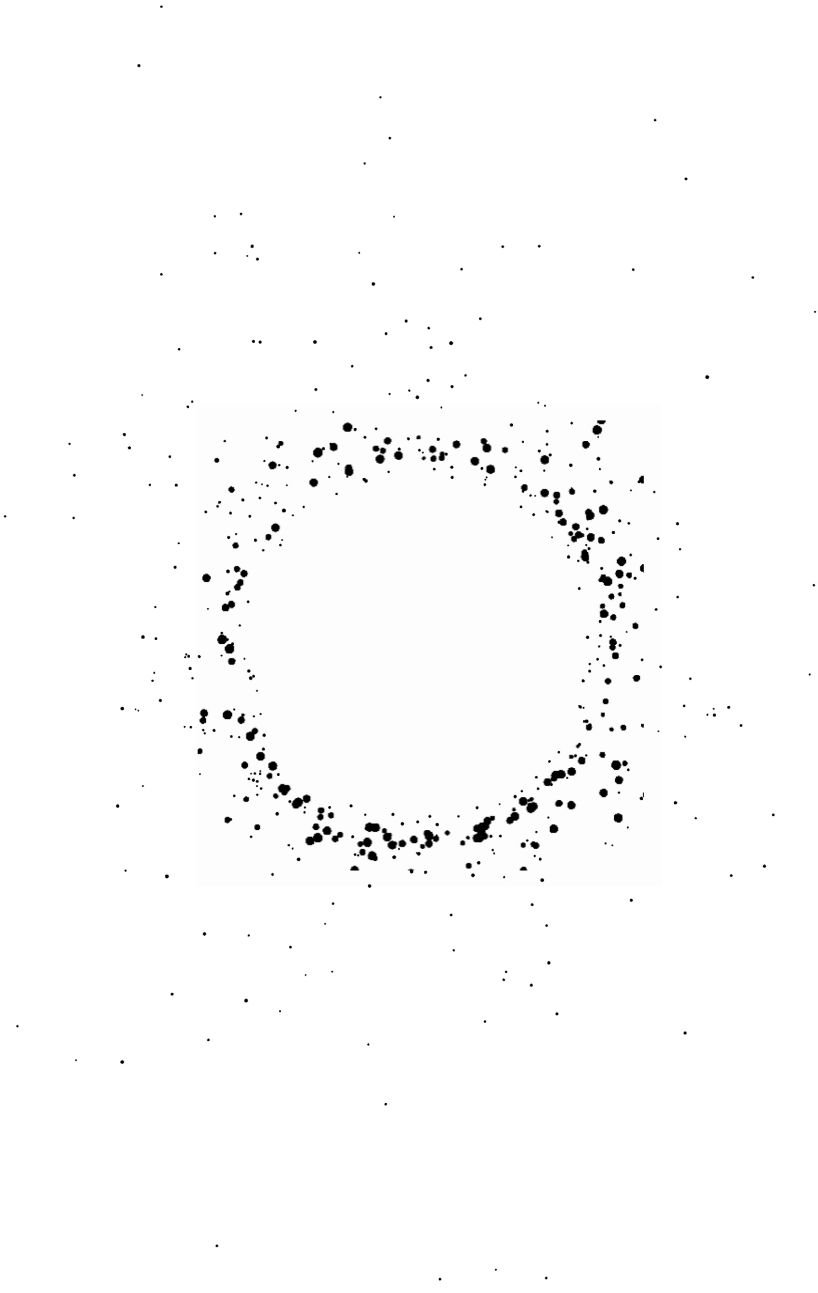
1. Impossible Exchange (London: Verso, 2015), p. 64.

The Forum has been conceived by:

- **Martin Lundfall: concept, production**
- **Massimiliano Cerioni: concept, instrument sound development (RNBO/MAX)**
- **Miguel La Corte: concept, production.**

THE PENDULUM

Accelerometer, projector, stainless steel chain, metal frame on bearings, OSC network, socket.io network, live camera stream, p5.js, max msp and RNBO.



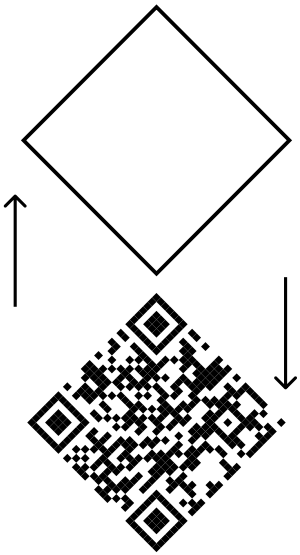
i2

Conditioned by the force of gravity and the thrust coming from the human action, the pendulum is in a continuously-changing balance between opposite positions:

Through the naturally bound dynamic force of gravity, the pendulum is in a dichotomy between

chaos/control
digital/physical
organic/synthetic
centralised/decentralised
individual Harmony/ Dissonance

Head to the portal and mirror your perspective in action



Head to the portal and mirror your perspective in action

What is a pendulum but a conversation.

A back and forth of consequential ideas.

A game of tether ball in which there is no winner - instead a collaboration towards consistent motion.

Stayed - we have a drone - a null - a control

One push is what it takes to release the potential energy stored in these materials and bodies.

Potential that we all have and need to make it to our next day.

One swing is an action.
Two is a reaction.
Three is a combustion.

Participation is the annulment of apathy.

Apathy is what started all of this in the first place.

Inaction is a fault whereas action - even if awkward - begets change - our only constant.

This object only functions with your participation.

Santiago Burelli

The Pendulum has been conceived by:

- **Santiago Burelli: pendulum design, concept & fabrication**
- **Martin Lundfall: concept, visualisation**
- **Massimiliano Cerioni: sound development (RNBO/MAX)**
- **Miguel La Corte: concept, live camera system, production**
- **Stratos Bichakis: interaction design & development.**

THE PULSE

Pulse is an instrument based on an algorithm for mutual synchronization, inspired by biological systems and adopted for sound creation by Stratos Bichakis.

Pulse is inviting the user to explore the space in between chaos and emergent order, unity and diversity, by adjusting the level of entrainment of each different node's listen parameter.

Access a pulse by listening and releasing yourself into a phase of connection. Alternatively, direct the pulse through the portal participativeaudiolab.com

There is a phenomenon called entrainment, which is the synchronization of two or more rhythmic systems into a single pulse. If a group of men is hammering on a building site, after a few minutes they fall into the same rhythm without any explicit communication. In the same way, the body's physiological rhythms resonate with each other. It is entrainment that provokes the trance states in the sama dances of the Sufis. When improvisers play together, they can rely on this natural phenomenon to mesh the music so that they breathe together, pulse together, think together.
In entrainment, the voices are not locked in exactly; they are always slightly off from each other, finding each other again and again in micromoments of time, weaving in and out of each other's rhythms. Perfect harmony can be ecstasy or an utter bore. It is the push and pull that makes it exciting.

We can play together without even playing together.

Entrainment mediates the performers' unity with the audience as well as with each other.

Stephen Nachmanovitch, Free Play, 1990.

Mutual synchronization occurs in many populations of biological oscillators. Examples include male fireflies in south east Asia; pacemaker cells of the heart; networks of neurons in the circadian pacemaker and hippocampus; insulin-secreting cells of the pancreas; crickets that chirp in unison and women whose menstrual periods become mutually synchronized.[1]

Unison rhythmic relation has been exploited by music diachronically leaving crowds in awe and inducing feelings of euphoria and unity. Though there are numerous examples from ethnomusicology to minimalist composers that challenge our natural preference for exchange of experiencing unsettlement, bringing excitement or even induce transcendental states.

In both digital and analog music creation systems, rhythmic unison is not even questioned. Furthermore, many technological companies have built their reputation exactly by offering to the users, masterful features to guarantee rhythmic coherence by any means.

As a liberation from the locked groove that much of the music seems to have fallen into, Pulse suggests a playful alternative to creatively explore the potential of the fragile states beyond fierce synchronicity and expand the temporal polyphony.

Stratos Bichakis, Berlin, 2023

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1. Synchronization of pulse coupled biological oscillators. Renato. E.Mirollo and Steven H.Strogatz. Society of Industrial and applied Mathemathics. 1990.

The Pulse has been conceived by:

- **Stratos Bichakis: concept, algorithm design.**
- **Martin Lundfall: visualisation**

development process

Pt.1 Prototyping sonic institutions with Black Swan

Black Swan is a Berlin-based collective experimenting in horizontal and decentralised, infrastructure and governance. Challenging conventional decision-making and resource allocation models in the arts and culture sectors, Black Swan facilitates the development of new artist-led models of communal support, collaboration, and governance. Through democratising access to resources and funds – as evidenced in experiments led at Berlin's Trust and KW Institute in 2021 – Black Swan is actively developing a more equitable and democratic cultural ecosystem.

Within May 2022, a number of resources were pledged by various partners, to allow for the realisation of a music/sound related project. Participants selected via open call then proposed their own project ideas to the group, or simply indicated a wish to experiment in collective decision-making.

Using Black Swans's digital toolkit, including a quadratic voting application known as Cygnet, participants collectively decided how to disseminate and allocate the resources pledged to their projects.

By June 2022, after a voting round utilizing the quadratic voting tool, successful applications were announced. (see figure. 1)

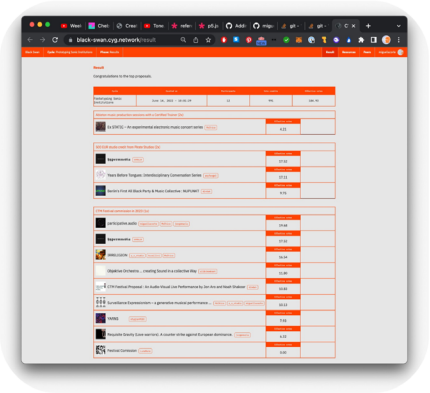


Figure 1. CYGNET results for "Prototyping sonic institutions workshop".

Pt.2 Participative Audio Lab Hackathon.

Thanks to the resources pledged by the CTM 2022 x Black Swan workshop, the Participative Audio Lab (PAL) was then granted a commission for developing an exhibition at HAU2 festival within CTM 2023.

Within a cultural landscape dominated by closed-control platforms, PAL is focused on collective creation and the development of open source tools that allow artists to create and distribute their own participative musical experiences within the internet.

Within September 2022, after several iterations of online participative musical experiences, a concept was set to create a space for collective creation through online and physical infrastructure to show and enable the possibilities of web-based participative musical experiences. In a more technical manner, web sockets were conceived as a central technology in the development of this exhibition as a way to enable a real-time collaborative process.

As part of the fundamental beliefs of PAL in creation as a collective process, and to further explore the dynamics of participation and collaboration in real-time scenarios, PAL decided to open the development process of the exhibition, and its involving granted resources received by CTM .

By November 2022, in the frame of a hackathon, PAL created an open call for the development of the exhibition. More specifically, it was set on the development of instruments of collective creation as the core structure of the exhibition; the hackathon leveraged on the newly announced RNBO tool by Cycling 74 as the core infrastructure for the instruments to be developed. It consisted of four days and three phases:

- Within the first day, an experience of collective ideation was set: Through conversations and guided collective visualizations by the participants, a picture was formed. Each participant expressed their interest and priorities of development within the hackathon.
- By The second day, participants prepared a prototype of their ideas and demonstrated them to others.
- Through the last two days, collective consensus took shape in different live voting dynamics to decide on the instruments that would be developed and their fundamental elements.

It is within this context where CC0 (Collective Control 0) was created. CC0 is thus, a collection of tools for collective creation, developed in turn through a process of collaboration in the form of a hackathon.

Initiative, general direction: Miguel La Corte
Concept & production: Massimiliano Cerioni, Miguel La Corte, Martin Lundfall, Stratos Bichakis, Santiago Burelli

Sound Direction: Martin Lundfall (Pendulum), Massimiliano Cerioni (Forum, Pendulum), Stratos Bichakis (Pulse)
Web Direction: Attila Haraszti, Martin Lundfall
Web app architecture: Attila Haraszti
Network infrastructure: Attila Haraszti, Martin Lundfall
Visuals: Martin Lundfall (Pulse, Pendulum)
Zine: Miguel La Corte
Texts: Miguel La Corte, Massimiliano Cerioni
Installation lighting: Stratos Bichakis

Instruments:

- "Forum":
  - Martin Lundfall: concept, proudction
  - Massimiliano Cerioni: concept, instrument sound development (RNBO/MAX)
  - Miguel La Corte: concept, production.

- "Pulse":
  - Stratos Bichakis: concept, algorithm design (RNBO/MAX).
  - Martin Lundfall: visualisation

- "Pendulum":
  - Stratos Bichakis: interaction design & development.
  - Santiago Burelli: pendulum concept, design & fabrication
  - Martin Lundfall: concept, visualisation
  - Massimiliano Cerioni: sound development (RNBO/MAX)
  - Miguel La Corte: concept, live camera system, production

Hackathon Participants: Stratos Bichakis, Massimiliano Cerioni, Philipp Geschwendtner, ShangYunWu, Niles Fromm, Mario Scarfiglieri, Santiago Burelli, Patricia Calugar, Crcdng.
Space Modelling: Niles Fromm
Project documentation: Jamie Rosenberg
Production Assistance: Mario Scarfiglieri
Web development assistance:
Parr Geng & Carolina Acuña

This installation is possible thanks to support from the initiative »Prototyping Sonic Institutions« organised by Black Swan and CTM Festival 2022. Employing decentralised autonomous organisation (DAO) infrastructure and thinking, Black Swan engaged with a number of resource-pledging silent stakeholders to explore new ways of supporting the creation of artistic works.

Special thanks to Factory Berlin for granting the working space.

Attila Haraszti / haywirez – is a dance music producer and an independent music software professional specializing in web audio and networked media applications. He is currently developing Songsling, a web-based creation and publishing suite for interactive music and audio.

Martin Lundfall (b. 1992, Stockholm, Sweden) is a multi-instrumentalist and creative coder with a background in mathematics and decentralized digital infrastructure. He is the frontman of the art rock group Atomic Fruit and produces electronic music in the duo PROVERBIAL.

Massimiliano Cerioni (Italy 1986) is an award-winning composer and performer, currently living in Berlin. He uses coding and designs musical instruments to explore new sonic possibilities for solo and collaborative projects concerning different forms of artwork, from pure sound compositions to multimedia projects. Cerioni graduated in electronic music at the Casella conservatory with Michelangelo Lupone.
He did internships and workshops with CRM in Rome, INA-GRM in Paris (2009), GMEM in Marseille (2012), Nuova Consonanza, and Tempo Reale. From 2013 to the present day, he took part in festivals hosted by several institutions with commissioned and premiered pieces, among which: Artescienza, National Academy of Dance, Goethe Institut Rom, Tempo Reale, ICMC 2014 in Athens, Psychedelic Film and Music Festival in NYC (2021), Live Performers Meeting (2021), Chilean Conexión in Berlin (2022), Radius Collective Exhibition in Boston (2023). Cerioni has been a resident artist from EMS and IIC Lerici in Stockholm (2019) and SCOPE BLN in Berlin (2021). Nowadays, he collaborates with Music Hackspace, The Audio Programmer, Cycling'74, and several artists.

Miguel La Corte (B. Caracas, Venezuela, 1999). Miguel's current practice is focused on instrumenting shared experiences and designing Open Media Ecologies. In more detail, he approaches music as a vehicle for agency through experiences of public collective creation; Shifting the public notion of creation as a closed process into a new conception of creation as an open and collective process.

In late 2016 Miguel founded myriorama.xyz, a instrument development company originally focused in the restoration and redesign of electroacoustic pianos. On a general level Myriorama is intended to reflect on our shared living circumstances by designing and restoring the instruments and elements that define these spaces.
As his first prototype of an Open Media Ecology, he founded the Participative Audio Lab in 2022, an organisation focused on the development of open source tools that enable artists open source participative music distribution.

Stratos Bichakis (b. 1984) is an interdisciplinary artist and composer. An engineer by education, and member of the Athenian experimental music scene. He has forged his way of creative discovery, operating in the horizon between art and technology, keeping sound as a core element in his practice. He is a member of Contemporary Music Research Center (KSYME-CMRC). He co-founded the creative hub Ubique, in Athens in 2018, and led a series of yearly seminars on experimental music practice. He has presented his work at festivals and exhibitions in Greece, Europe, Russia, and Canada. He is currently based in Berlin.

Santiago Burelli (b. 1993 Caracas, Venezuela) is a multidisciplinary artist whose practice spans mediums including documentary filmmaking, sound installation, sculpture, and music.

Regardless of the vehicle, Burelli approaches each project from nuanced political and sociological angles that explore our relationship with materials, space, and sound. By experimenting with industrial construction materials such as concrete, lighting, steel, and electronics, Burelli brings to light our convoluted relationship with industry, extractivism, production, and consumerism.

CC0: instrumenting a multiplied sensibility

In 1922 Laszlo Moholy Nagy presented an early and farsighted remark on the basis of music media.[1] Through a gramophone-specific work, the artist proposed a "scratch-hand-writing" technique that converted the gramophone into a synthesizer of tone relations. By converting a system designed for the bare reproduction of media, into a system of active production and participation, Moholy-Nagy stated the importance of disseminating the creative process as an essential element in cultural development.

In 1943 Margaret Mead, the american anthropologist expressed her concerns of the rational dependency of modern cultural environments such as the exhibition space, and implored for new cultural experiences capable of providing sensory connections.[2] Parallel to Moholy-Nagy, she expressed and evidenced a turning point in culture through the advent and extension of industrialized machinery.
As a response to their time, they both exclaimed for the importance of distributing new relations and connections which naturally involve the body and its senses into the cultural experience, beyond purely that of the mind only and its rational structure.

Through enormous efforts, the proposal of distributing creative processes and multiplied sensorial experiences has been iterated to different degrees throughout the last century. Besides Moholy-Nagy and Mead, John Cage[3] Nam June Paik[4], among others, also proposed constructive attempts to create new systems of participation in culture.
As every age of art is defined by the limits of its conditions of experience, so is this time defined by the best attempts to test and redefine these limits.

In contrast to these attempts, today, the production of media is universal[5]. In addition to the massification of personal computing, the development of new infrastructures for music interaction on the web, presents a unique opportunity for public access to the core sensorial experiences and creative processes which define our cultural essence.

Enabling access to interactive experiences, is granting the public power and control over the creative process, therefore implementing a new sense and relation from and towards our environments; Following the law of requisite variety, our potential for creation and imagination is directly proportional to the way we envision and treat our environments.

Today the development of collective instrumentation and distributed creative processes proposes a bright potential and different future for music and culture. A future shared through creative processes rather than ubiquitous reproductions, is a future of open creation and shared action.

It is in this context where CCO is born.

CCO is an instrument[6] designed to enable a state of multiplied sensibility[7] . Through the distribution of multiple creative processes we can collectively experience an *"extension and refinement of the capacities of perception…where the modern individual can respond to the sensory, cognitive and political challenges set with ever greater intensity by technological development."*

It is only here, by utilizing the potential of the mere machines that have consistently controlled our environments to their catastrophic consequences, where we will collectively reverse these issues. Through experiences of collective creation, we will amplify our sensibility to our environments, and unwind our conceptions of creation as an activity that enforces itself over these, thus finally understanding our living surroundings as an integral part of us, and not as another.

1.Moholy-Nagy, L. (1922) "Produktion—Reproduktion," De Stijl 5, No. 7, 98--100 (1922): *"The objective of the artistic use of the media, in other words, should be to produce an extension and a refinement of the capacities of perception and the consciousness of the modern individual, in order to put him in a position where he can respond to the sensory, cognitive and political challenges set with ever greater intensity by technological development."*

2.Margaret Mead (1943) Art and Reality From the Standpoint of Cultural Anthropology, College Art Journal, 2:4, 119-121: *"For art to be reality the whole sensuous being must be caught up in the experience. our present practices, by which people sit on stiff chairs and listen in constrained silence to a piece of music, or wander in desultory unpatterned groups in an art gallery looking at framed pictures in desperate disregard of any relevance which might exist among them, is the very opposite process. One sense may be heightened, one emotion sharpened, but except in rare cases, there is no increase in the whole's individual's relationship to the whole of life."*

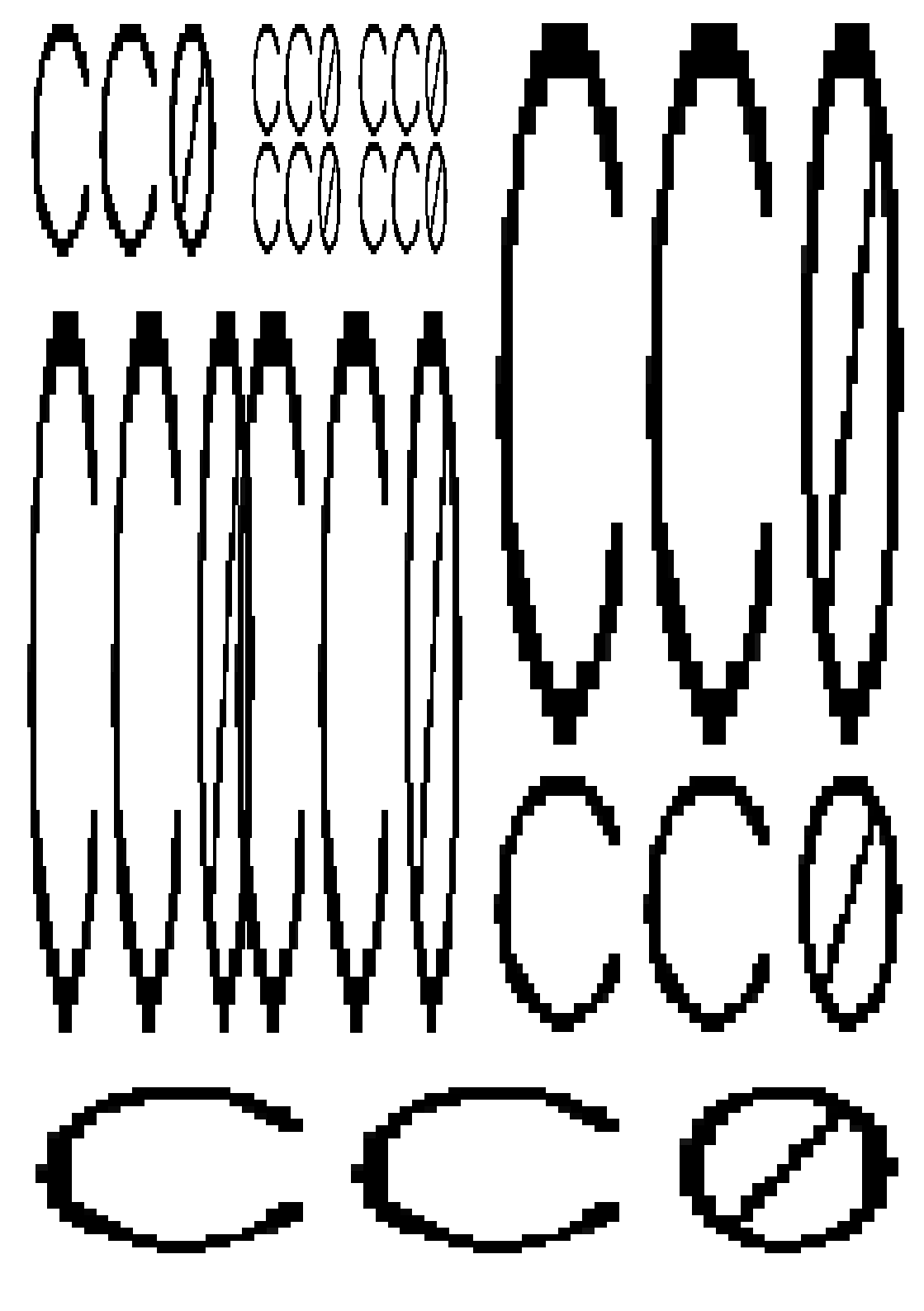
3.John Cage placed silence at the most vociferous spaces & centers for our communication. Beyond challenging the conditions in which music had been (infra)structured into, he exclaimed for a new and more sustainable media ecology where sharing is central to the creative process.

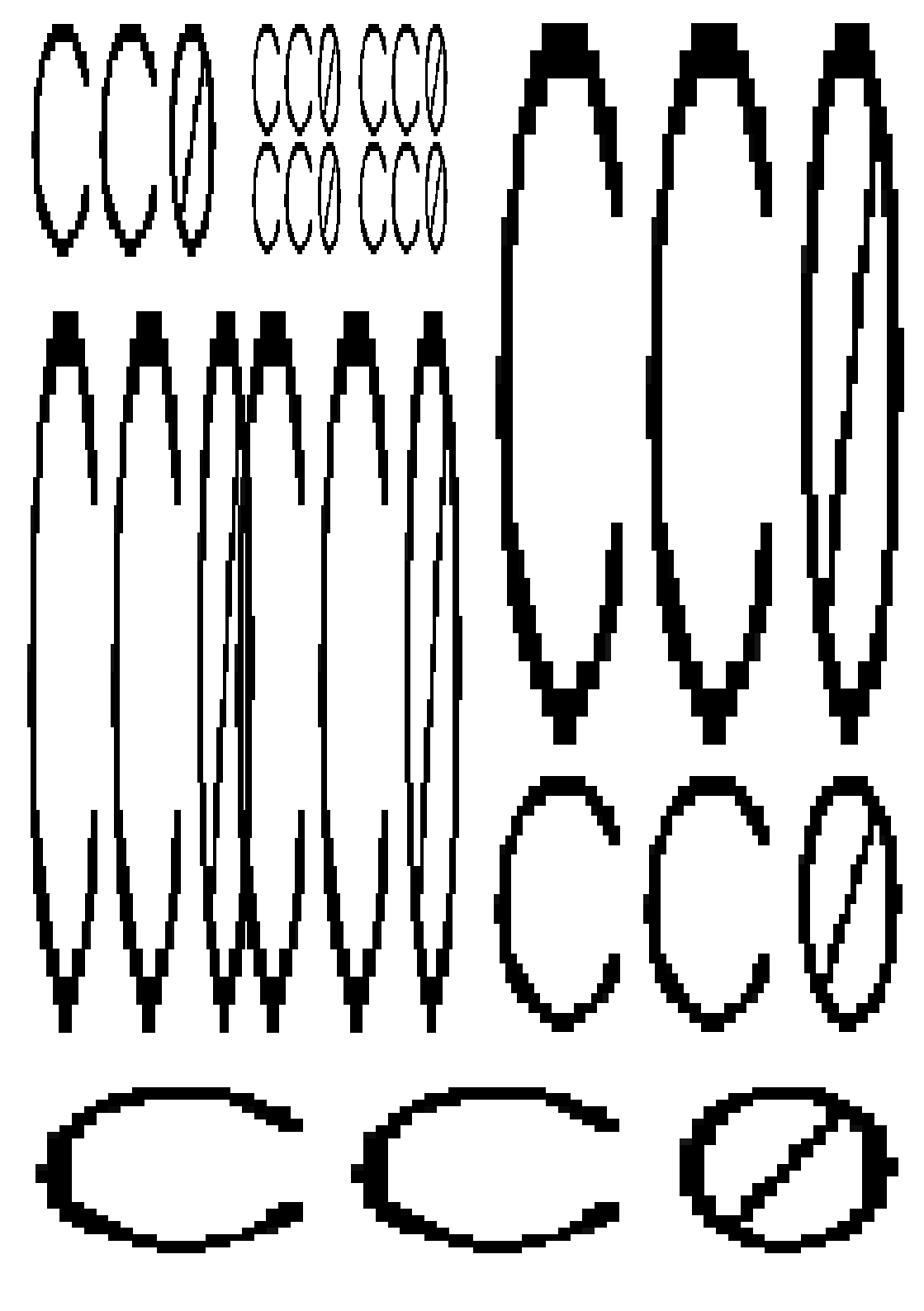
4.See Participation TV by Nam June Paik.

5.Manovich, Lev. The Language of New Media. MIT Press, 2002. Page 31. *"The computer, which since the early 60s was used as a production tool, has become a universal media machine: a tool used not only for production, but also for storage, distribution and playback."....."In a historical loop, a computer returned to its origins. No longer just an Analytical Engine, suitable only to crunch numbers, the computer became Jacquard's loom — a media synthesizer and manipulator"*

6.Walter Smetak Simbologia dos instrumentos p.41. *"It is not at all easy to create new instruments. Firstly, let us analyze or try to give meaning to the word "instrument". If we divide the word in half, two Latin roots appear: instruere-from instruct, and mentis-the mind. Yes, to instruct minds. Thus, we quickly arrive at the single meaning of music and the synthesis of all the arts: to instruct minds; and consequently, to provide a form to voice and speech. To accomplish this task, we needed a new mindset, or a new mental state, a new intelligence, free from all the prejudices forming what we have been, we are, and we will be. However, this does not mean that what we are is devoid of significance."*ll

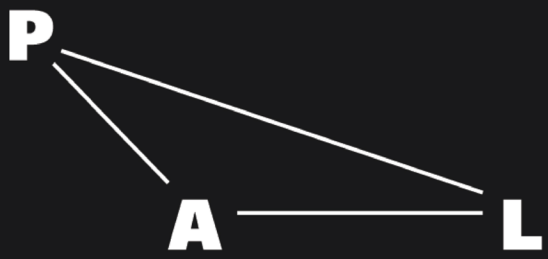
7.After all, Luigi Russolo was right within his "Art of Noises" manifesto; by leveraging machinery we will achieve a multiplied sensibility. Not by expanding our senseibilization to the aesthetical qualities of the ubiquitous noises present in metropolitan society, but - as expressed by Moholy Nagy - by the expanded possibility to engage the public in the act of remote and interconnected creation.





Participative Audio Lab

vision



2026

2025

2024

Harvesting a new sense of creation

Opening new avenues of crative action

Creating open source tools to enable participative musical experiences

The vision: harvesting a culture of open creation

Creating

" We must attribute to music a far more serious and profound significance that refers to the innermost being of the world and of our own self."

Arthur Schopenhauer, The World as Will and Representation.

Music has a unique and special quality to mirror our current underlying conditions of connection. Its non-material essence allows it an immediate expansive action, capable of speaking a universal language; the language of the soul.

To find new forms of public music composition, is thus to find new forms of cultural organization.

By distributing new forms of control over the creative process, we can ***create*** a new layer of intimacy between the composer and its public as an alternative dynamic to the current industrialized forms of music distribution and platform control. Fully accessible systems of participation can henceforth compliment the recording paradigm with a new layer of experience between the artist and its audience.

Opening

By allowing a space of interaction and enabling a new free distribution dynamic of the creative process, we can create a sense of ***open*** interconnection within this cultural structure, henceforth enabling open media ecologies.

A open media ecology is thus a cultural system where the participation of the creative process isn't closed solely to the connoisseur, but rather it is actively designed to remain open to public participation.

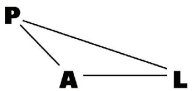
Open media ecologies are deeply essential as a way to provide a new spirit in communication. Allowing new mechanisms of interaction to the public is awarding them new conceptions of action and attention from and towards our environments. Following the law of requisite variety, our potential for creation and imagination is directly proportional to the way we envision and treat our environments.

Harvesting

From music ecologies to cultural structures and finally to general social forms of organization, we can genearate a systematic change in society through systems of participation in music.

Involving the creative process as a standard element within the medium is awarding the public the power and essence of creation. Beyond a simple moment of play, a redefinition of the entire media ecologies is occuring; an evolution from a closed model which promoted control, into an open model which actively invites the unknown person to the *unknown* experience, instead of inviting the unknown person to the *known* experience.
Being with the unknown is hence, being by surrendering, or rather, being by *not controling*.

It is at this moment, that a culture of open creation is born. When cultural surrendering can exist parallel to cultural control, we can harvest an open society.



CTM FESTIVAL

P A L