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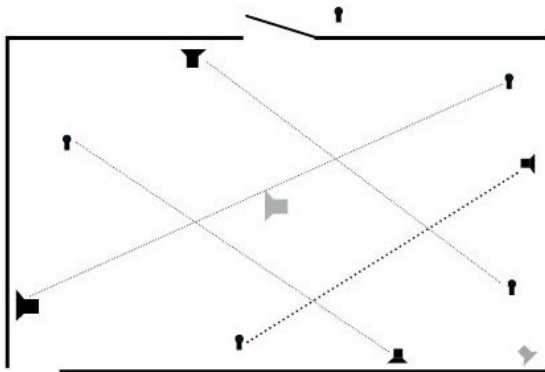
Space Turns to Time and Vice Versa

Agostino Di Scipio's *Untitled 2005* (*Ecosystemic Sound Installation in a Small Reverberant Space*)

I met Agostino Di Scipio and I came across his music (Audible ecosystemics and his Installation *Ohne Titel, Ökosystemische Klanginstallation in einem kleinen halligen Raum*) for the first time in 2005 in Berlin. Listening to this Installation was for me a very intense moment and it was a source of reflection about space.

Today, I am going to analyse this work by looking into the difficulty to differentiate time from space in the installation *Ohne Titel, Ökosystemische Klanginstallation in einem kleinen halligen Raum*. First, I am going to make a global description of this work. Then, I will analyse the different phenomena that we can listen to in this piece of work: we will gradually see how subtle the difference between space and time is.

Equipment and placement



You could have listened to *Ohne Titel, Ökosystemische Klanginstallation in einem kleinen halligen Raum* (*Untitled 2005, Ecosystemic Sound Installation in a Small Reverberant Space*) from the 17 June to 3 July 2005 at the DAAD Galerie in Berlin. This installation required:

- 4 different kinds of loudspeakers (in DAAD Galerie, there were 6 loudspeakers: 2 of

them were linked with 2 others). They were set up at different heights and in different locations of the room. All of them were facing the walls (rather than the audience), as is tradition in Agostino Di Scipio's ecosystemics works.

- 5 different types of microphones: there were 4 inside the room and one outside. In Berlin, they were located in 4 different places and at 4 different heights (They were 3 or 4,5 meters high in the DAAD Galerie which is 6 meters high).
 - I assume the outside microphone was probably placed above the main door (the listener could listen to some street noises: cars' movements, birds, speaking voices).
 - Inside the room, each microphone was linked to a specific loudspeaker. Thus, these various links between a microphone and a loudspeaker created various feedback loops (and many different Larsen tones will naturally and inevitably occurs).
- A mixer and a computer (in Berlin, it was a computer with a Kyma workstation). The computer manage 5 different programmes:
 - a "larsen tone" generator (thanks to the feedback loops between the microphones and the loudspeakers),
 - two different kinds of pulse generators:
 - a "slow pulse" generator
 - a "fast pulse" generator
 - The delayed transmission of the external microphone signal,
 - A sample and playback process (optional).

The 4 outputs run all these 5 different processes but each output was differently programmed and it work independently inside the computer system (but they confront them as sound processes, sound movements, in the space of the room). It would be important to remind you that each input/output link uses a specific microphone and a specific loudspeaker with their own acoustic features (both of them were placed in a specific location and, consequently, they build up a fragile, particular acoustic link, witch can be distorted at every moment by the other phenomena in the room: sounds, audience).

Three Audible ecosystemics studies

You will notice that this installation is a kind of synthesis of the 3 *Audible Ecosystemics studies*: the pulse generator process certainly derives from the *Audible Ecosystemics n.1 (Impulse Response Study)* (2002); the “Larsen tone” generator follows the principle from the *Audible Ecosystemics n.2 (Feedback Study)* (2003). And we can indirectly recognize some aspect of the *Audible Ecosystemics n.3b (Background Noise Study, with mouth performer)* (2005) with the sample and playback process and by using the insertion a sound space into an another space (the smaller space—the room here, the performer mouth in the study 3b—is held in a bigger space—the street here, the room in the study 3b—and receives sound from the latter).

[Agostino Di Scipio *Untitled 2005*, sound documentation. With kind permission of the artist. All rights reserved.]

Listening to *Untitled 2005, Ecosystemic Sound Installation in a Small Reverberant Space*

After the listener was going past the noisy and touristic Checkpoint Charlie surroundings, he came into this white and calming reverberant room. After closing the main door, the listener first had an impression of silence and calm: sounds were emerging little by little.

Most sounds were actually discreet and they individually appeared, in their own place in the room.

First of all, we pay attention to a regular granular matter (the term “regular” is not quite right: the granular matter in question is a series of pulses, of which the rate of flow alternately speeds up or slows down (like a quiet but irregular continuous oscillation). These pulses are almost always present and they are dispatched from the loudspeakers everywhere across the room: they seem to be like a background noise.

We can notice the first confusion between time and space (and vice versa): the successive speeding up and slowing down of pulses give an impression of an alternation of expansions and compressions of space. Here, the flow of pulse is quite regular and it creates a temporal homogeneity: the temporal flow is always logical and uniform (when we are listening to a stereo recording of this work, this temporal coherence appears to be obvious). However, we must not forget that every loudspeaker sends out a different rate of pulses (we have previously mentioned that each loudspeaker is independent). Therefore, the spatial flow is not so homogeneous: temporal speeding up correspond to a spatial intensification and to more movements. Conversely, a temporal slowing down gives some less complex movements (In this case, the listener tends to believe that he can grasp each movements individually). In brief, in a live listening situation, it is never easy to distinguish spatial movements from temporal fluctuations.

After noticing those regular pulses, the listener is drawn to new movements. The series of pulses could be considered as a constant and quiet background sound matter, which evolve in a coherent way (like a one phenomenon). Isolated pulses sometimes interrupt this pulse matter. These isolated pulses are more intense: they are very like clicks (like sonic artefacts). They are unpredictable and they vary in loudness. Each click is separated in time and in space too: each time, it is sends out by an only loudspeaker.

Here, the link between space and time is very particular. Also each click is a very brief temporal phenomenon, it becomes a very important spatial phenomenon. Because of the reverberant nature of the room, the sharp click gives an intense and bright spatial diffusion. That is accentuated by the loudspeakers

facing the walls, and which thus amplifies the indirect sounds, the indirect parts of sound. The listener can easily distinguish the limits of the closed space, which is created by the room walls. Thus, some little temporal isolated events bring forth all the spatial characteristics and dimensions of the room.

The third phenomenon which we are going to look at is a set of different Larsen tones, which emerge and vanish. These Larsen tones have various pitches, different loudness; they could last less than a second or last a few seconds (by reading the work score, we can notice that the longest duration could be 10 seconds). Sometimes, these Larsen tones disappear for several seconds and sometimes they can be layered. But, mostly they just appear on their own: each Larsen tone discreetly and naturally emerges from space (the listener never knows when this sound clearly begins and, often, when it ends). Often, it seems to be caused or interrupted by one isolated click, but it is probably an acoustic illusion (as we were listening to the Larsen tone and its evolution, our attention is suddenly drawn to the click and to another space. Thus, we lose the track of the first sound).

With these Larsen tones, the difference between space and time becomes subtle. Here, setting up a bridge between a microphone and a loudspeaker causes each Larsen tone (the bridge establishes a well-known feedback loop). In other words, we could say that a distance (between a loudspeaker and the microphone) and every movement present in this interval create a temporal phenomenon. In order to get a better understanding of this last sentence, we must examine how Agostino Di Scipio manages the feedback process.

In the feedback process, the distance between the microphone and the loudspeaker is very important to define the dynamic of sound. Agostino Di Scipio writes in the work instructions:

“As microphone1 and speaker1 are both in the room, when the bridge is active a *feedback* loop is established. With high amplitude levels, that will turn into a sound (*Larsen* tone), whose properties (frequency, amplitude, onset time, and spectrum too) will depend on various factors, in-

cluding microphone-to-speaker distance, placement and orientation of both microphone and speaker, technical features (freq response, spatial pattern, etc.), and will also depend, of course, on the room resonances and the particular geometrical and material properties of the areas where the microphones and speakers stand. Even the presence of visitors (their presence, the amount of people in the room, the noise they make as they step through the room), will affect the feedback loop”.¹

These various spatial characteristics became more complex if we consider the four microphone-speaker bridges established in the Work. Agostino Di Scipio writes:

“All loudspeaker-microphone distances (4 loudspeakers × 4 mics = 16 distances) must be different among them. The microphone-wall distances (4 walls × 4 mics = 16 distances) must be different among them”.²

The Larsen tone characteristics result from a lot of spatial data: every change due to any dynamic event will modify this spatial configuration and the sound itself.

Additionally the computer itself uses the input signal picked up by each microphone to regulate a Larsen tone and to determine its temporal envelope. For the Larsen tone not to grow indefinitely and lastly unbearably, Agostino Di Scipio uses a specific process: a negative feedback. The system uses the inverted signal given by the input amp-follower to amplify it when its level is too low and to decrease it when it becomes too loud. Often, this temporal process creates a kind of artificial Doppler effect, which gives an impression of movement.

We can thus notice that spatial elements merge with temporal data to create a dynamic phenomenon. Here, it becomes difficult to discern the limits between time and space.

The last kind of sound events that the audience can listen to in the room is the different sounds picked up by the external microphone: cars' movements, birds, speaking voices, and some indistinct sounds. These

sounds dispersed in the space of the room by all the loudspeakers create a peculiar effect. These noises coming from outside and enclosed in this reverberant room have an unnatural and ghostly aspect. This is particularly obvious in noise from the moving cars. Dispersed in this close space, movements created by the sound of the cars, which come out of the 4 inside loudspeakers, seem to be accelerated.

All the different kinds of sound described previously (“regular” pulse matter, isolated loud pulse, larsen tones and sound picked up by the external microphone) interact to create an ecosystemic dynamic. For instance one outside sound picked up by the external microphone will feed the feedback loop and thus some larsen tones will emerge. If the Larsen tones become loud, the input amplitude picked up by the microphones become more important. As a consequence, the larsen tones will get shorter and the pulse rate of flow will decrease. After such a moment of respite, new events will come again, and will create a new musical agitation.

In this work, we can notice that Agostino Di Scipio composes and stimulates interactions between various cycles of different lengths. We can clearly hear this assertion in the perpetual continuous—speeding up or slowing down—oscillation of pulses and in the disappearance and reappearance of other sounds. Even if the latter are unpredictable and became different, they constantly come back, like a constant regeneration. (In this respect, this installation is very different from the other ecosystemic works which are more unpredictable and which *initially* appear to be more “chaotic”).

In this work, it is difficult to make a distinction between time and space because they merge. That brings us to consider the limits of conception of sound, in which sound is an accomplished entity, which could be definite either in space, or in time. In Agostino Di Scipio’s piece, it is impossible to define each sound either as an only temporal phenomenon, or as an only spatial phenomenon. Here, we have to consider sound as a movement in which time and space interacts and in which they are dependent each other.

I will conclude with a quotation from Maurice Merleau-Ponty who explain this idea of movement:

“If we want to take the phenomenon of movement seriously, we shall need to conceive a world which is not made up only of things, but which has in it also pure transitions. [...] We said that the parts of space seen as breadth, height or depth, are not juxtaposed, but that they co-exist because they are all drawn into the hold that our body takes upon the world. This relation was already elucidated when we showed that it is temporal before being spatial. Things co-exist in space because they are present to the same perceiving subject and enveloped in one and the same temporal wave. But the unity and individuality of each temporal wave is possible only if it is wedged in between the preceding and the following one, and if the same temporal pulsation which produces it still retains its predecessor and anticipates its successor. It is objective time which is made up of successive moments. The lived present holds a past and a future within its thickness. The phenomenon of movement merely displays spatial and temporal implications in a more striking way”.³

Endnotes

1. Agostino Di Scipio, *Untitled 2005, Ecosystemic Sound Installation in a Small Reverberant Space* (Instructions), Berlin, 2005, p. 9.
2. Agostino Di Scipio, *Untitled 2005, Ecosystemic Sound Installation in a Small Reverberant Space* (Instructions), Berlin, 2005, p. 5.
3. Maurice Merleau-Ponty, *Phenomenology of perception*, translated from the french by Colin Smith, London, Routledge & Kegan Paul, 1962, pp. 246–247.

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Abstract

In 2005, at the DAAD Galerie in Berlin, Agostino Di Scipio composed an ecosystemic work: *Ohne Titel, Ökosystemische Klanginstallation in einem kleinen halligen Raum (Untitled 2005, Ecosystemic Sound Installation in a Small Reverberant Space)*. This particular work leads the listener to wonder what sound is. In this installation, like in all the Agostino Di Scipio's ecosystemic works, the difference between space and time is weak. By exploring the dynamical aspect of sound, the composer and the listener have to link again these two worlds together which were separated by the philosophy and by the arts. By analysing this work, we try to find this dynamical combination.

Zusammenfassung

2005 wurde in der daad-galerie in Berlin Agostino di Scipios ökosystemische Arbeit gezeigt: *Ohne Titel, Ökosystemische Klanginstallation in einem kleinen halligen Raum*. Diese Installation führte den Hörenden zum Nachdenken darüber, was Klang sei. Wie in allen von Agostino di Scipios ökosystemischen Werken ist der Unterschied zwischen Raum und Zeit nur schwach ausgeprägt. Durch die Erforschung der dynamischen Aspekte von Klang müssen der Komponist und der Hörende diese zwei Welten wieder zusammenfügen, welche durch die Philosophie und die Künste voneinander geschieden wurden. In der Analyse dieses Werks versuchen wir, diese dynamische Konstellation zu finden.

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Renaud Meric holds a PhD in musicology, Thesis 2009: *L'appréhension spatiale de l'écoute : un mouvement entre imagination et perception. L'exemple de la musique électroacoustique (= Spatial grasp of listening: a movement between imagination and perception. The case of electroacoustic music)*, Université Montpellier III, thesis supervisor: Makis Solomos. In his doctoral dissertation he researches the perception of musically complex situations (in electroacoustic and computer music), especially the perception of space. He has a philosophical-phenomenological-approach to listening and sound. He also studied electroacoustic music at the Marseille Conservatory/GMEM. He published several papers on Agostino Di Scipio's and Iannis Xenakis's music.

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