

# ***Diastrophisms: Visual and Sound Assembly in Remembrance of an Earthquake***

Nicole L'Huillier and Valentina Montero

## **Nicole L'Huillier**

MIT Media Lab, U.S.A.  
<nicolelh@media.mit.edu>

## **Valentina Montero**

Universidad de Valparaiso, Chile  
<valentina.montero@gmail.com>

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## **ABSTRACT**

*Diastrophisms* is a sound installation with a modular system that sends images through rhythmic patterns. It is built on a set of debris from the Alto Río building that was destroyed by the 27F earthquake in 2010 in Chile. *Diastrophisms* explores poetical, critical and political crossings between technology and matter in order to raise questions about the relationship between human beings and nature, to consider the construction of memory in a community by questioning the notion of monument, and to imagine new forms of communication in times of crisis.

## **KEYWORDS**

Sound, matter, material, immaterial, earthquake, memory, communication, transduction

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**Diastrophism: a set of processes and geological phenomena of deformation, alteration and dislocation of the earth's crust due to the effect of internal tectonic forces.**

Yasushi Sakai (Japan), Nicole L'Huillier (Chile) and Thomas Sánchez Lengeling (Mexico) are the creators of *Diastrophisms*, an installation curated by Valentina Montero (Chile), presented in Chile at the 13th Media Arts Biennial (BAM) in Santiago in 2017; the theme for the biennial was the word *tremor*. The nationalities of these artists are relevant. Japan, Chile and Mexico are distant countries marked by a similar seismic history. In the last decade, their cities have withstood massive earthquakes with the highest intensities recorded in human history.

The 13th BAM invited different creators to reflect on the “tremor” concept, which helps us to describe not only tectonic movements but also psychic or emotional states that are characteristic of moments of crisis on a personal and collective level. Although Japan, Mexico and Chile have experienced several



**Fig. 1.** Alto Río building after earthquake 27F, Concepción, Chile, 2010. (© and Photo: Juan Carlos Briede)

intense earthquakes, contemporary art has not sufficiently addressed this phenomenon as a subject matter. Beyond the illustration of these events, the curatorship was interested in “tremor” as a broader concept. The telluric quality of the territory—especially in Latin America—has also determined its identity both as individuals and as a nation. The seismic condition has become an extension, a feature that reflects the instability of institutions, the fragility of political projects and at the same time the way in which, at a psycho-social level, an attitude of resistance has been built in relation to drastic changes—for better and worse. The tremor or earthquake shifts from a geological event or an intimate accident into a metaphor for a state of being, where an imminent collapse conditions a shifting, nervous and expectant present.



**Fig. 2. Detail of devices actuating the debris, Centro Nacional de Arte Contemporáneo Cerrillos, Chile, 2017. (© and Photo: Yasushi Sakai)**

On this basis, Montero’s curatorship embraced Sakai, L’Huillier and Sánchez Lengeling’s proposal, which aimed at the articulation of technological, material and emotional aspects in an experimental artwork. *Diastrophisms* is a sound installation with a modular system that sends images through rhythmic patterns. It is built on a set of debris from the Alto Río building that was destroyed by the 27F earthquake in 2010 in Chile (Fig. 1). This piece is nourished by a transfer of what is material into immaterial, and vice versa. The operation of this work consists of an image turned into sounds, and then those sounds creating a new image. The original image contains the memory of the earthquake represented in a fragment of the former Alto Río building. In turn, debris from that building physically operates as material support, which, when being struck, opens up a new cycle of value for that material (Fig. 2).

### **Matter, Technology and Networked Affection**

One of the challenges posed by artistic practices combining science and technology in their experimental proposals lies, according to the Actor Network Theory (ANT), in recognizing or revealing what can be described as the implicit socio-technical assemblage in our relationship with the world [1]. Based on this perspective, ANT seeks to make visible the material and semiotic relationships between a cross-linked organization of technology, humans and non-humans (other living beings, matter, etc.). When we recognize our interactions with nature manifested in operations of dominance, resistance or passivity, we forget that humans are in turn a part of nature and as such we are imbued in a dialectical and fluctuating relationship that does not distinguish dichotomies, thus making the physical, material, poetic, affective and imaginary dimension indiscernible.

Post-humanist and neo-materialistic approaches introduced by Barad [2] and Dolphijn and Tuin [3] present conceptual frameworks that enable us to assess the interaction between human and non-human elements affecting the flow of life. In *Diastrophisms*, debris, circuits, monitors, energy, memory and history

are intertwined to recall a specific episode of the past and at the same time to imagine a communication system that could be useful in times of catastrophe.

Following DeLanda [4], we see the debris of the Alto Rio building, a common silent witness of social catastrophes, as evidence of a cyclical evolution: its history begins as an amalgam of minerals from the earth: flows of iron, limestone, water, gravel, sand that are then transformed by labor, cranes, electricity, speeches, economic indicators, desires, contracts and signed papers into the walls of a building that contains human biomass in a city; then the building is destroyed and fragmented into pieces and its components are returned to the ground, becoming silent again in a cemetery; afterwards, it is unearthed, re-organized, and it becomes an artifact, a monument, a container of the memory of an event.

The relationship of matter and sound becomes intertwined into a single unit. This exchange is fundamental to understand the function of *Diastrophisms* as an installation of several dimensions, spaces and temporalities.

### On Memory

*Diastrophisms*, can also be described as a device for memory. In recent decades, contemporary artists have been concerned with archive and memory as subject matter. In most ancient cultures the transmission of events found its way into oral tradition. As Le Goff [5] points out, in modernity the document acquires greater prominence as the main source of knowledge, opposed to a memory of the community (ethnic or religious) manifested above all in rites or ceremonies. It is then that a clear distinction emerges between memory and history [6]. Memory would be embodied in the collective, therefore it is changeable; it oscillates between memory and amnesia. With the massive use of technological means of capturing information—from analogue to digital—the relationship between representation and memory becomes more convulsive. We imagine that the past is present and available. We assume that image and sound are traces, but behind the sonorous or visual signs that our technological devices can store, there is a hidden field outside, a whisper or a spectrum that keeps on circulating among people and that seems to need rites and the community in order to become activated. Between the massive inventory of images and sounds of the past circulating in a digitalized society, and the institutions that claim to be the new custodians of the memory of peoples, the field of art can offer alternatives for reflection that bring us closer to more

subjective aspects, enabling us to think from other points of view. This is one of the main objectives of *Diastrophisms*.

Heritage management is characterized by the protection of buildings, territories to which a historical value is attributed in its conservation. The artists established collaboration with Proyecto Memoria Foundation (Chile), which is committed to the recovery and recycling of debris resulting from natural catastrophes. The rubble becomes evidence and at the same time a symbol of a part of our history.

Proyecto Memoria managed the possibility of accessing the debris, which lay in a landfill (or debris cemetery) belonging to the Dibam (Chilean Directorate of Libraries, Archives and Museums) in Penco, in the south of Chile. A team was organized with local volunteers to go



Fig. 3. Digging Alto Rio's debris from debris cemetery, Penco, Chile, 2017. (© Fundación Proyecto Memoria. Photo: Gino Venegas.)

to the site and unearth the fragments of the former building, which was now underground (Fig. 3). They located the pieces, dug them up, cleaned them and sent them in a truck to the Cerrillos National Center for Contemporary Art in Santiago, Chile. The disinterment was very moving as most of the team members were inhabitants of Concepción and had lived through the earthquake. After years, pieces from the Alto Río Building were emerging from the earth full of memory and testimonies.

### Sound as Memory

At dawn on 27 February 2010 in Concepción, after the Alto Río building collapsed, splitting in two, many people became trapped. As mentioned to the press by one of the inhabitants of an apartment who managed to get out alive: “Most people banged on the walls with their hands and made noises in order to communicate themselves.” Percussion surfaced once again as the first system of innate communication. Before word, before image, it is vibration, sound—a vital energy translated into blows—that builds a rhythm, a code emerging as a communication system.

*Diastrophisms* recovers this primal energy.

On the debris we placed devices that struck the material producing a rhythmic pattern. The arrangement of the modules in different densities of debris provided acoustic variations and different resonances (Fig. 4). The devices communicate with each other; they listen and repeat the percussive message. Each rhythmic pattern transmits a sound pixel, and after several sequences an image begins to appear as a result, creating an action of cyclic transduction. Here we see the full cycle: raw matter begins in the earth, becomes a building, then returns to the earth, where it is found as debris, which vibrates again, revealing the memory impregnated therein.



Fig. 4. Arrangement 1, outdoor installation at the entrance of the exhibition, Centro Nacional de Arte Contemporáneo Cerrillos, Chile, 2017. (© and Photo: Yasushi Sakai)

### Communication Methods for Times of Crisis

*Diastrophisms* operates as a memory register, but also as a communication system. It presents a rhythmic syntax, using sound as a tool for communication and organization. We created a custom protocol that enables the devices to communicate with each other by generating acoustic information based on an input (image) and by listening to sonic information from its surroundings. The input is a digital image encoded in binary data and transformed into rhythmic patterns. Devices communicate and transmit these rhythmic patterns pixel by pixel by means of percussive strikes on the surface of the debris. In turn, human interference can modify the sound pattern and affect the output image.

Eschewing conventional systems based on hierarchical structures of power and governance, this system could be thought of as an autonomous and independent alternative for communities. Its structure has the ability to hide messages/images from existing surveillance systems, thereby guaranteeing cross-sectional communication and the avoidance of censorship. On the other hand, these devices communicate exclusively through sound, generating a stable and self-sustaining “offline” system, offering an alternative and independent communication protocol. This enables the system to remain standing and functioning if conventional communication networks were to collapse, deteriorate, expire, be forgotten or cease to exist.



**Fig. 5. Arrangement 2, indoor installation, Centro Nacional de Arte Contemporáneo Cerrillos, Chile, 2017.**  
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Each device is composed of a custom-made circuit board with an ATmega328 microcontroller that picks up the input signals through an Electret microphone (100Hz–10kHz) with a 60x mic preamplifier to be processed as an output rhythmic message via a mini push-pull 9V solenoid that actuates the debris. The microphones have an extension cable so they can be placed next to the neighbor debris and pick up its sounds. The software layer of this protocol is designed to send gray scale pixels (or a byte) for each transmission. One can observe the variations on the data transmitted by looking at the displays attached to both ends of the installation (Fig. 5). The end result is archived on a remote server. Each data transmission also contains a header that declares the start of a message, which contributes to the rhythmic sounds.

*Diastrophisms* was installed at a location that functioned both as a space of work/construction and exhibition. Although the installation could be obscure or cryptic to viewers at a first glance, this mysterious appearance opened up an interactive scenario that encouraged visitors to be curious and to engage with the piece. The curatorial text helped people remember and understand the complexity that embraced the earthquake of 27F. The audience rapidly engaged with the piece by talking, screaming, tapping and making noise near the devices. They were stimulated by the piece and wanted to interact, to be part of it, to be part of the interference and disruption of the image.

### **Conclusions**

*Diastrophisms* can be considered an exercise in which subjectivity, technology and materiality are articulated in order to demonstrate the transformation dynamics implied in the physical and social world. It enables us to observe from new epistemological perspectives (new materialism, ANT, post-humanism) the traces of a given material and cultural history, activating our collective memory. Additionally, it opens the way for imagining new communication protocols for future times.

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