

## Karla Brunet

### Notes on *Antarctica Tempo*

*Antarctica Tempo* is a Live-Cinema piece, which involves the disciplines of art and science, developed from a 60-day expedition to Antarctica. In the artwork, the perception and the pace of the trip are intermingled with scientific research, my subjective view, and restriction within the military environment. It is a mixture of codes – software and language – that try to translate the experience from the remote place. This paper intends to present the creative process of this audiovisual performance. The language I want to portray here is the technical image, the composition of the imagined place and tempo.

In this 10-minute audiovisual performance, images, data animations, sounds, and voices are processed and edited in real-time. These mediums are illustrating the coldness, the endless day, the rough sea, the seasickness, the dangerous Drake Passage, the boredom, the confinement, the beautiful and eccentric landscapes, the underwater, the cold water, the lack of possibility to walk around, and my body in a different environment. Besides the environmental issues, it is also about being in military surroundings, following rules, having someone to organize your routine (when and what you eat), hierarchy, and behaving in accordance with the military timeframe. *Antarctica Tempo* is about the tempo, the pace in this icy continent. It is also a reference to the word *tempo* in Portuguese which means time but also the weather. During the days of the expedition, I frequently heard from the navy people that Antarctica is about tempo – pace, patience, timing, and weather. This “tempo” was what defined my days in Antarctica.

### Technical and aesthetic choices

The audiovisual performance was conducted with Arena Resolume software and a MIDI controller (Korg nanoKONTROL2) in order to perform the video and audio clips. Loop videos were pre-edited with Final Cut Pro and audios with Audacity. The images on the top layer were altered by using Adobe Photoshop and “sonified” by Photosounder. Data visualization has done with Processing. It was a demanding job because each small clip of the performance is previously created and requires different software/programming language.



Figure 1: Arena Resolume Screenshot

### The layers and control

The images of the upper layer represent the military operation, the control of the time, the climate, and the pace of the expedition. They display buttons, screens, maps, antennas, compasses, gas tanks, wires, and windows. They function as masks to the lower layers of videos deciding what is to be shown or hidden. These images generate sound which I call “sound images”. In order to create this, different parameters (e.g., frequency, intensity, range, volume, pixel width) in the software Photosounder have been adjusted. The outcome is noisy and disturbing, similar to these machines, buttons and controls. The generated audio from this image becomes the part of the performance and the timing, *tempo*.

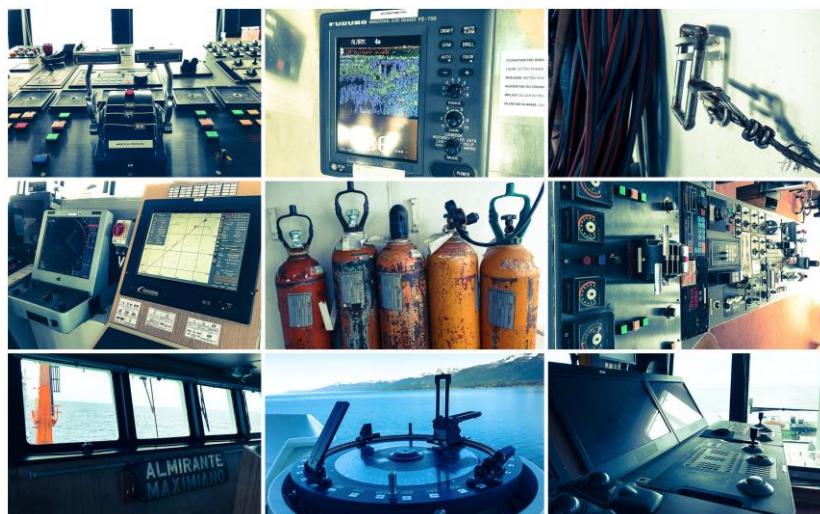


Figure 2: Photos used as masks in the control layer.

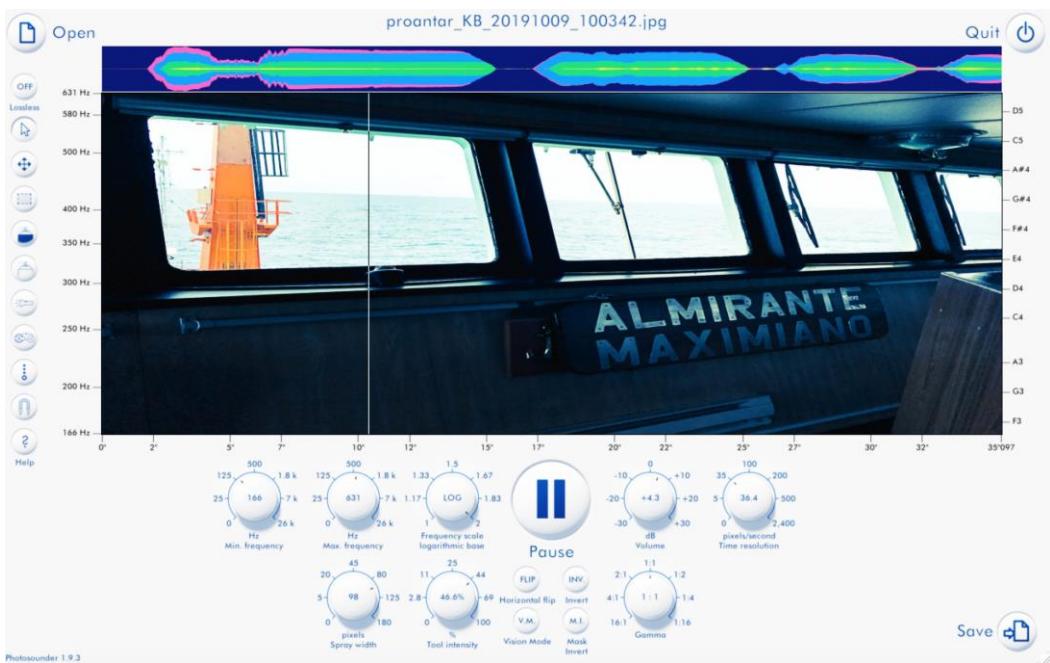


Figure 3: Photosounder Screenshot

The videos on the lower layers are documentation of scientific research and subjective observation of the frozen continent. Images of hiking, playing in the snow, penguins seen on the journey are part of this scenery. These include also movements of the scientific work such as collecting water samples, pulling the biology net to collect phyto and zooplankton, using the microplastic net, collecting physical sea data such as salinity, conductivity and temperature, and air pollution data. Images shot from the underwater camera, the icy sea, and the grandeur of the ship portray the landscape. Additionally, part of the performance visuals is small animations created from visualization of physical data from the Antarctic sea made by the ship CTD (Conductivity, Temperature, Depth) profiler.

During the expedition, I recorded sound of reports (like a logbook), announcements from the ship loudspeaker (the dawns at awakening), and buzzwords. These small audio clips are also part of the performance, serving as a soundtrack for some of the videos. Audio sources from Freesound website free database had been geolocated in Antarctica are filled in two video clips, which have no sound recorded.

## Data visualization

Together with the scientific layer in Resolute, there are some data visualizations of the physical data collected by the CTD. Here, I created animations of different physical aspects of the sea. For example, I visualized conductivity as sphere which takes the conductivity as width and salini-

ty as height. In another animation, latitude and longitude form as a texture of numbers on the screen. Tides of the period from the expedition were transformed into lines; the distance of the line represents the length of the tide. Also, ellipses form an overlapped drawing in the screen based on the data of the tides.

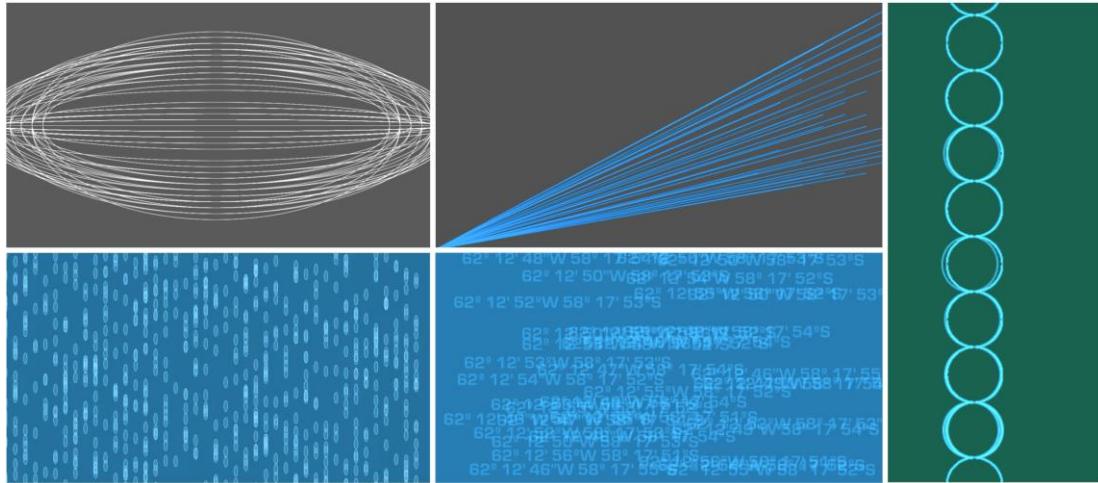


Figure 4: Processing data visualizations

## Concept

*Antarctica Tempo* comes from the idea of musical time, the time that defines the rhythm, the pulsation of images, and sounds. It is a work on the duration of the spaces of time, of the confinement, of the period of research in a distant place and following the new systems of time –military time and meteorological weather (also meaning time in Portuguese).

Interrelationships between art, science, and armed forces are demonstrated during the performance. The structure of the audiovisual materials is divided into three layers. The top layer is the time control layer, represents the military control, buttons, probes, and antennas. The layers below are a perception of place and scientific research, a way of perceiving through data. Here the images of landscape stay mixed with images of science and its visualization.

The theoretical framework of this piece is a visual interpretation of Flusser's ideas – mainly those from the books *Into the Universe of Technical Images* (2011a), *O Mundo Codificado* (2013), *Filosofia da Caixa Preta. Ensaios para uma futura filosofia da fotografia* (1985) and *Natural:mente* (2011b). The technical image is intensified in this performance; the machine makes the images and also performs them. Flusser states: “Image makers faced two obstacles, however. First, every observation is subjective, showing one instant from one standpoint, and second, every observation is ephemeral.”

al, for the standpoint is in constant motion.” (Flusser 2011a: 11) *Antarctica Tempo* is my subjective and ephemeral view of the frozen continent. The audiovisual performance is a mixture of my imaginary place in the South Pole and the actual experiences in Antarctica. As Flusser puts, “[i]magination’ exactly means the ability to summarize the world of circumstances in scenes, and vice versa, to decode scenes as a substitute for circumstances”<sup>1</sup> (Flusser 2013: 131). Therefore, I created different scenes based on the circumstances that I experienced aboard the marine research ship. The landscape is my viewpoint, my memory, and my imagination. The image as an outcome is an overlaid intriguing video.

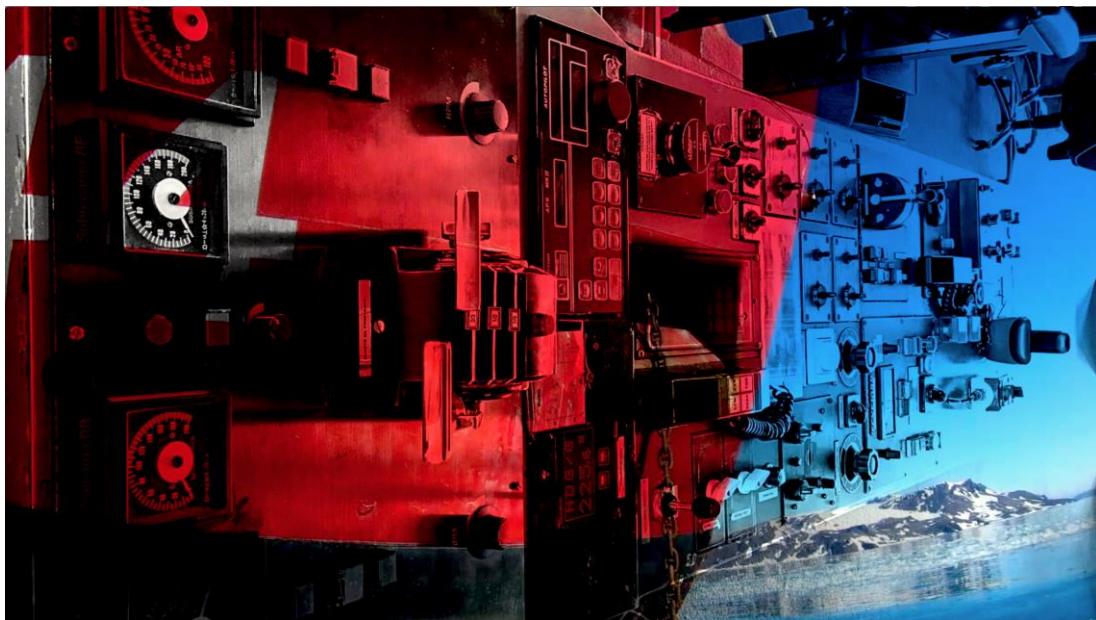


Figure 5: Performance still shot

I felt the connection with this wild nature on my skin. The coldness, the strong wind, the noise of the ice cracking, the rough sea were all part of this experience in Antarctica. There, nature is the supreme and the ruler. Our wishes and goals can only be fulfilled if nature allows them. Flusser talks about the wind as verbal and participative. The strong wind in the South is even more verbal, it speaks loud as if it were shouting. “Because the sight is a sense that separates us from things, and the ear the sense that dives us into them. The world seen is circumstance, the world heard is a participatory world. The things of nature that are audible, but invisible, like the hurri-

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<sup>1</sup> My translation from the original in Portuguese: “‘Imaginação’ significa, de maneira exata, a capacidade de resumir o mundo das circunstâncias em cenas, e vice-versa, de decodificar as cenas como substituição das circunstâncias.”

cane and the breeze, penetrate our nostrils, mouth and pores. These are ‘verbal’, not ‘substantive’ things. They are voices that call us.”<sup>2</sup> (Flusser 2011: 127)

The intention of mixing the videos and audios in live is a wish to recreate the experience and re-interpret it. The contact with nature and the technical image as a means to perform the experience bring us to an overlap of natural and artificial, of science and art. Here, the binary is not so strong anymore; they are mixed into one piece. My relationship with nature does not devide what is the environment and what it is culture. I see all together superimposed, sometimes one is more evident than the other.



Figure 6: Performance still shot

*Antarctica Tempo* is a subjective and ephemeral observation from an ever-changing point of view, which is represented in an ephemeral and even more subjective way. It is a combination of the possible and the impossible, the probable and the improbable. Technical images are presented to be confused, photographs become a sound, data becomes an image, and videos are deconstructed. The surface is the wall that is incorporated into the image. Everything becomes imagination.

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<sup>2</sup> My translation from the original in Portuguese: “Porque a vista é sentido que nos separa das coisas, e o ouvido sentido que nos mergulha nelas. O mundo visto é circunstância, o mundo ouvido é mundo participativo. As coisas da natureza que são audíveis, mas invisíveis, como o furacão e a brisa, penetram por nossas narinas, boca e poros. São coisas ‘verbais’, não ‘substantivas’. São vozes que nos chamam.”

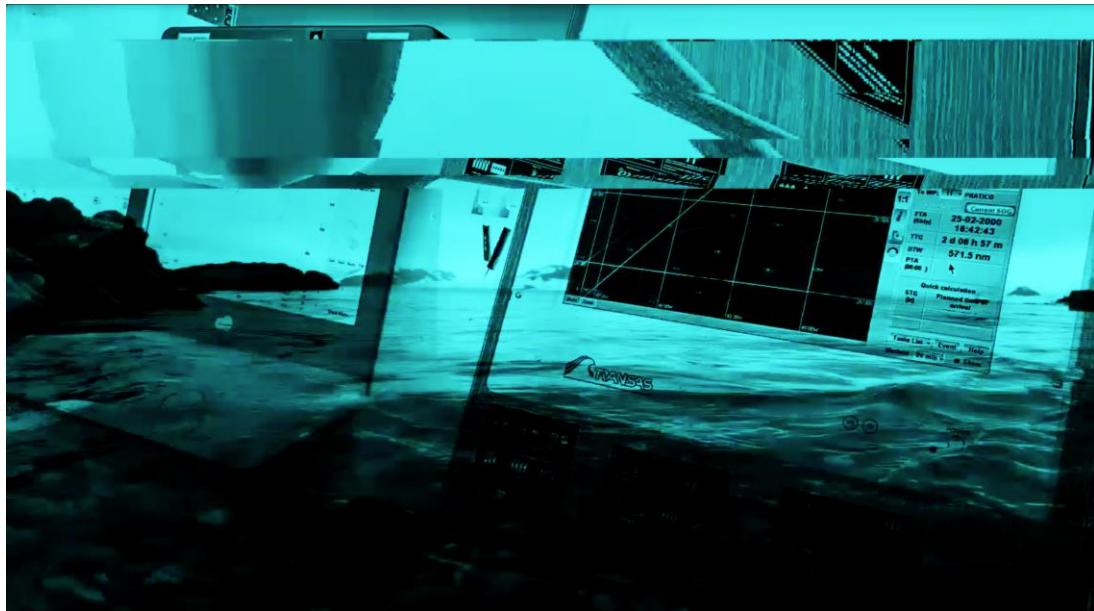


Figure 7: Performance still shot

## References

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