

- Description of the project / program notes

Caracoles IV is an installation that uses interactive feedback systems to sonically explore modified conch shells known as a pututus. A pututu or pututo, is an andean musical instrument fashioned out of a conch shell by cutting the apex of its spire and shaping it like a cornet embouchure. These instruments existed far before colonial occupation in the 15th century and are thoroughly represented in pre-columbian andean visual art.

This musical instrument is thus co-created by both a human maker and the non-human large snail which once inhabited it; it is the mollusc's exoskeleton and home, and it is shaped by its existence. Emptied of its organic body it is appropriated by the instrument maker. In this installation, I perform a third appropriation by placing a microphone in the embouchure and a speaker at the end of the spiral canal and connect them through a software-mediated feedback system running on a raspberry pi zero micro-computer that hangs above the shell.

The spiral shape of the shell has important cultural meanings. It metaphorically resonates with the human cochlear canal, but also with various spirals like DNA chains and electronic coils. When we listen to an empty shell, it acts as a filter and resonant chamber to our bodies and spaces, thus, its resonant frequencies colour the sounds of the world. The filtered noise of the world audible through conch shells is popularly believed to be the distant sound of the sea, as if the shell had recorded its past life's soundscape, or as if it were able to transmit it by virtue of an intimate connection to its former habitat. In both cases, conch shells are made out to be sonic media. Pututus play a similar role. Their sounds connect us to an ancient andean soundscape; these powerfully symbolic material objects are severed from their context, their aesthetic, religious and social functions, all of which are inaccessible except through speculation on material vestiges. In this installation, these instruments are suspended in the air severed from context and from performers.

Instead of performing these instruments and hearing their sounds as blown, we instead hear the spectral components of the shell over time. Through a pitch tracker, the system detects resonant feedback frequencies and temporarily cancels them thereby pushing the system to lock onto a new frequency, and so on. The result is a sequence of resonant frequencies that derived from the shape of the shell and properties of the system; the shell's shape is sung by feedback.

Each shell-system is a collaboration between humans, conch-shells and interactive systems, but also an interaction between all the shell-systems in the room, each with its own set of resonances. The result is a blur of feedback melodies that produce unpredictable sonic landscapes. While the first iteration of this installation had four shells, I hope to create more shells to increase the perceptual distance between the installation as a whole, and the sound of each shell-system coming to the foreground as you walk through the installation.



A pututu.



A pre-Columbian ceramic representation of a pututu.



Picture by Martin Chambi of a person playing the instrument



Electret mic at the embouchure



Speaker at the conch shell opening



The shell hanging at the installation.



A simulated view of the installation

- Link to video or audio demonstration of the project

You can find an audio excerpt of one of the shells and a few images here:

<http://www.jaimeoliver.pe/caracoles-iv-2018>

- Technical rider of the work

The room for this installation should be empty. Resonant rooms are preferable; both clear or dark rooms work. There should be some control over the lighting and a way of hanging multiple shells from the ceiling. Each of the shells has its own raspberry pi and the only cable needed is a power cable. The only technical requirement is that there is an electric outlet (110-240V) to plug the power supplies for the whole installation .