

Amigdalae

A project by Massimiliano Peretti
with the collaboration of the musician Simone Merli

The project includes a series of performances, 3 video works, sculptures, objects and photographs each one focusing on a chosen emotional status:

- First Season, [1.] - Fear
- Second Season. // - Attraction

- Third Season [3.] Dissociation

Emotions are the final output of perception, at times they are unrelated to events, they are just personal, biological. I isolated three types of emotional reactions, according to their influence in my life. Fear, attraction and dissociation as interpretation of reality, history and memory of the body.

The entire project is focused on the human brain observation in the process of reaction to stimuli, environment and mental images.

Through the neural links, the structures of meanings and the idea of the world take the form of images and solid objects, as copies of reality with an intrinsic diversity.

My blood pressure as needles

my reactions as roots

my concept of the world as plants.



The performance

a real-time audio-visual processing through biofeedback technology

The individual's mode of reaction and interaction is related to the way individuals are reacting with and towards the surrounding environment, and its communicational language.

In the field of experimental psychology, neuropsychology and psychobiology, the process of tracking and recording cerebrum-cortical electrical activity, and its combination with other values of psychomotor activity, enables the diagnosis of the emotional responses of an individual.

Psycho physiological states are assigned to different electrical values. These variations in electrical potential can be recorded with the use of contact electrodes; in most academic situations they are connected to a signal amplifier and an inkjet instrument that reacts to the variations of potential and amplitude of the input data. This instrument, commonly known as electroencephalograph, has been the most important regarding studies on the functioning of cerebral activity during the awoken state of an individual, the sleeping state, emotional states, and during physiological and psychological disturbances. The recorded data, electroencephalogram, are permanent "memories" of a distinct period of cerebral activity.

There are other psychophysical data, related to human behaviors, which can be tracked together with variations in brain activity; these data are generally defined as biofeedback.

An important process in the studies of psychological states considers cardiac frequency, electro muscular activity (EMG), and body temperature. The interpretation of all these data gives a detailed response of the psychic activity of an individual.

EEG. By using an electroencephalograph and a digital interface we can make use of an electrical value, which is output by four sensors placed on the forehead, as a tracking guide of general brain activity. The signals are recorded in real-time and they vary according to psycho emotional variations in the individual, or according to mutations in the surrounding environment.

The average time for tracking and recording the data is seven minutes. The generated graph is based on a detailed interpretation of the four types of brain waves: alpha, beta, delta and theta. Their values are shown in amplitude (volt) and frequency (hertz), and isolated peaks of electrical activity: amplitude higher than hundred volts and low frequency, or short shocks of high frequency waves and small amplitude.

EMG. The electrical muscular response is recorded through the use of a dedicated sensor. Also in this case the signal gets digitized and elaborated by software that defines the thresholds of reaction of the individual and that compares the output data. We take in consideration the area related to facial muscles, particularly the forehead and eyebrows, as they tend to have a more sensitive reaction to emotional activation.

Cardiac Frequency. The heart beat is recorded through a frequency sensor placed on the index finger of the left hand, and its data is monitored and recorded through the whole duration of the experience.

Body Temperature. A temperature sensor is placed on the palm of the right hand and communicates to the biofeedback machine through recording of micro thermal variations.

Sound

The voltage values tracked by the biofeedback machine, when a tester is exposed to an emotionally stimulating video input, run through a sensors' interface and are transmitted to a computer. The parameters related to the sound manipulation process, are directly and proportionally related to parameters of brain wave variations in the individual, which is exposed to the visual perceptive stimulation.

According to levels of acquaintance in the individual towards the sound environments being produced, the biofeedback machine tracks other emotional variations that are fed back into the video sequence, creating an interaction loop between the individual, the audio and the video. This process allows the tester to learn his/her emotional delivery according to the input provided through audio and video.

Massimiliano Peretti

Born in June 1978, Genova.

Educated by

College of Arts Paul Klee in Genova

Academy of Fine Art in Firenze

Bachelor of Science in Experimental Psychology, University of Firenze.

Master in Neural Networks at the Artificial Intelligence Department of the University of Florence.

Now is living and working in New York.

05

Amigdalae

audio ≠ visual installation and performance project
in collaboration with simone merli
at Parisud art gallery,
PARIS 27 May – 24 June

Video installation
CVZ contemporary
New York City
May 21

Audio performance at
Boreas Gallery
Williamsburg - Brooklyn
March 12

04

001.0
writer and director
official section at Torino International Film Festival 2004
[color film 16mm. Italy]

codes
director for ≥film cycle in progress code≤
bellettiperetti productions [Milan]

La Lucertola
writer and director
feature film in competition at the Rotterdam Film Festival
[color film HD digital format, Italia 2003]

search carefully in me
video artwork
[digital format and computer multimedia post-production]

03

Freeshout
videoart installation at ExMacelli in Prato [Italia] with
sislej xhafa and emilia telese. 24-29 june

dnsqusssxs
video artwork
[digital format]

neural network for colors recognition
neural network programming and Tlearn application programming
for a 6 month workshop of artificial intelligence, logica
fuzzy and neural network

Simone Merli

Born in July 1978

Grew up next to lakeside and woods in north Italy

Graduated with a BA in Sonic Arts and an MA in Audio Production in London (2001)

Additional studies in interactive music-programming language

Musician

05

Amigdalae
audio ≠ visual installation and performance project
PariSud art gallery,
PARIS 27 May – 15 September

Music performance at
La Madeleine
Genova – Italy
July 29

Music performance at
Staygold Gallery
Williamsburg – Brooklyn
March 18

Music performance at
Boreas Gallery
Williamsburg - Brooklyn
March 12

portrait-robot
music on photographic work by nina teglio

04

music performance
la madeleine, genova, italy

November 12

EP

ai yorukoe ≠ [short stories] ep
s.m ≠ 16' series quaidmorph
s.m - .dot /program
distributed by trace[tras], milan, italy

music performance
and sound installation in collaboration with artplayfactory
milan, italy
September 26 – October 11

original music programmations on la lucertola, a feature film
by massimiliano peretti and giacomo belletti

music composition
Museo d'Arte Contemporanea Castello di Rivoli
Torino, Italy – July to September

vissidarte. original music programmations for a series of
contemporary dance performances, italy
January - June

03

audio-visual performance
6th International Forum and Exhibition on Generative Art, milan,
italy
December 15

la stanza rosa and neve. original music programmations on
video art co-productions
Milano Film Festival and
Galleria Esposizione Permanente
milan, italy – june to july

- 02 - 03 lecturer of audio technology subjects and
 at SAE Technology College, milan,
 italy
- 02 music performance
 5th international forum and exhibition on generative art, milan,
 italy
 December 12
- natura e rumore
 audio-visual exhibition
 291 gallery, london, uk
 September
 audio under the surface
 audio-visual exhibition
 candid arts gallery, london, uk
 April
- 01 implant version 2.0
 sound installation
 4th international forum
 and exhibition on generative art, milan, italy
 December
- greenhouse
 sound installation
 University of Westminster
 london, uk
 July
- 00 site seeing zoom, collaboration on recordings with tal
 (quatermass/subrosa record label)
 in collaboraion with hotel pro forma,
 kanonhalle, copenhagen, denmark
 autumn