Description

Brain activity when dreams take place is similar to an awakened state, except the thalamus, an ancient phylogenetic structure in the nervous system, insulates the brain activity from the environment, desensitizing the dreamer to noise and impeding, for instance, walking, if the dream involves walking. However, the insulation is not total and external stimuli sometimes filter into what is happening in dreams. In order to establish a bridge between the EEG chart and the narrative of my dreams, I will experiment with the possibility of interfering in my dreams by way of external stimuli; sounds made while I sleep. During 80 days I will chart my brain's electrical activity when I am dreaming. Roberto developed a program that detects in real time the periods of dream-state rapid eye movements (REM), isolating their occurrence throughout the nocturnal cycle (between 90 and 120 minutes daily, separated into 5 or 6 cycles). Whenever the EEG readout shows I am dreaming, it will cue a computer programmed to produce simple, short auditory stimulus, for example, my own name those of close acquaintances, which might induce autobiographical memories to mix into the dream narrative. Every time the stimulus becomes part of my dream narrative, an a posteriori correspondence can be established between the EEG chart analysis and the narrative. We will choose six examples to be represented in six works that demonstrate the convergence of these two points of view: the objective EEG registry against the subjective narrative. The analysis of each dream will be visualized as a three-dimensional texture (for instance, the resulting spectral analysis of the EEG reading, or the amplitude of electrical force), which will be registered in bas-relief on wood, the milling computer-controlled or digital-laser drafted. Alongside this analysis, the laser drafter will record my dream narrative, precisely showing where the objective and subjective viewpoints coincide. Thus, each piece will evince the points of correspondence—but mostly the distance—between the EEG chart analysis that allows today's science to know I am dreaming and my subjective experience of it.

Basis

For a 2010 series of talks on cognitive experiences in the realm of art, Mario Borillo wrote in an introduction that, "The universe of art is the supreme site for mental activity for both the creator and the spectator. An activity whose distinguishing mark appears to be the space given over to the imagination, to dreams, to memory, to passions, to subjectivity's flows. This universe, heretofore obdurate or inaccessible to the exigencies of scientific analysis, is beginning to make its way into the cognitive science study field."

During the creative process, an artist must above all inquire into the subjective experience of perception and—more or less consciously—ask in what ways it enables the construction of our relationship with the world. As Mario Borillo suggests, the study of this process situated at the physical-mental node is a task befitting the neuroscientist.

Global Mind Project in Melbourne, Australia, is a multidisciplinary initiative that delves into consciousness and creativity by means of an interface between EEG technology and software, which renders audio-visuals from neural data, going beyond the usual video art to become a real-time (performance) operating system. In 2010, Global Mind Project presented "The Spectacle of the Mind," with the participation of Australian performance artists Stelarc, Domenico de Clario and Jill Orr.

This interest in the subjective experience as pure neurobiological phenomenon was also the topic of a symposium held in Venice in June 2011, which was organized by the Association of Neuroesthetics Berlin for the Peggy Guggenheim Collection and the Marino Golinelli Foundation. There, artist Ivana Franke in collaboration with neuroscientist Ida Momennejad presented “Seeing with Eyes Closed,” inviting the public to enter into the piece by sitting in front of a strobe light for six minutes with eyes closed. The experience is almost hallucinatory, with participants perceiving colorful moving shapes; images that are not situated on a screen nor properly in the mind, either. In reality, they are produced by the interaction between the body and the light stimulus. What is perceived depends on the individual, hence, the experience remains invisible, impossible to depict.

Inquiry into the effective content of the subjective experience of dreaming (the most ancient aesthetic activity, as Jorge Luis Borges concludes in his talk “The Nightmare”) is our project’s principal contribution to the field of art. The project aims to overcome the barriers preventing the display of the invisible subjective experience by utilizing the dreaming body to aid exterior observation.

For the last 20 years I have been assiduously writing down my dreams, a daily exercise that has steadily increased my capacity to remember them. In the same way I describe my dreams sans interpretation, I will submit myself to analysis by the apparatus, thus to confront the production of mental images rendered in writing with the images of mind activity obtained with the EEG in order to explore for meaning at the nexus between the two representations.

The work seeks to insightfully confront what the machine reveals on its chart and what the narration of the dream reveals in its telling. These two accounts will eventually end up corroborating each other, thereby furnishing an enriched description of what is happening in the brain at the moment a new image emerges. In addition to the artistic uses, the 80-day experiment into the nexus between the subjective and objective factors of dreams aims to go public with the findings, making them available to the scientific community.

Objectives

80 Days in Dreams Project is designed to observe dreams and attempt to stimulate them with a simple auditory device. Central to the study is the concordance between two apparently divergent means of displaying or depicting the dream experience during 80 consecutive days. Four registries will come from this experience, which are:

- An EEG chart and its analysis, with the charting programmed to detect in real time the waves natural to periods of REM.
- A diary that narrates my memories of the dreams which scrutinizes whether the stimulus applied during my dream state filtered into what took place in the dream, and more specifically, whether it is reflected in my diary account.
- A personal diary that succinctly and precisely gives an account of my daily activities.
- Two bas-reliefs depicting two instances when the computer-produced auditory stimulus became incorporated into the dream plot.

The bas-reliefs will have their debut exhibit at the Neurocartographies II: Art at Human Brain Mapping Exposition in the China National Convention Center in Beijing that takes place in June 2012 in conjunction with the annual convention of the International Organization for Human Brain Mapping.

Marcia Tucker, in writing about Bruce Nauman, describes our awareness of the world as, “the sum of our perceptions and of our physical, emotional and intellectual responses to our surroundings” (Art Forum 9 no. 4, New York, December 1970). It waits to be seen if submitting my awareness of dreams to this experience will let me open myself to a new territory of observation.