Technoetic Arts: A Journal of Speculative Research
Volume 12 Number 1
 doi: 10.1386/tear.12.1.39_1

PAOLA LOPREIATO
Plymouth University

Endless Fire: Multimedia interactive installation involving the use of thermographic cameras for the measurements of moist parameters (human temperature) in relation to sensations, feelings and the technologic environment

During my research career, I have explored a number of compositional techniques and communication strategies always confronting and taking inspiration from twentieth-century artists and movements. In this work, I provide an overview of the multimedia installation that I am designing for my Ph.D.

KEYWORDS
body perception
liquid entity
temperature
symbiosis

gesture-based interaction
liminal spaces
moist parameters

Three main approaches characterize my creative process:

1. Reconsideration of everyday perception and life
2. Use of body/matter
3. Use of new media

These topics have been considered as means to reach the audience forthwith through intuition. Intuition is the human ability of seeing many things at once, of viewing the whole picture perceiving the essence of things. The use of technologies and media will allow conveying to the audience different non-consequential messages, contents and stimuli at the same time. In a multimedia environment, I can communicate quickly and directly reaching the widest range of people, including those without special expertise, knowledge, background or education.

I just need people to sense and perceive in order to exchange experiences and communicate with them.

I am aware that two main problems will emerge during the design and the realization of the process:

- To skip analytical thinking preventing the routine use of linear logic
- To involve the audience profoundly in an experience that is both mental and corporeal

Accordingly, my efforts will be mainly directed to:

- Stimulate perception, awareness and insight in the audience through an immersive, multi-sensorial and multimedia environment
- Push people towards non-consequential thoughts and intuition

The development of installations and performances strengthened by the use of new media propose to activate and modulate all senses and perception of the audience. This will give people the chance to experience the thoughts as reality, to use simulation as a laboratory of creativity. In a multimedia environment, furnished with opportune technologies, I can try to alter and create perceptions, increase awareness, and modulate physical parameters of the audience by encouraging interaction, intuition and introspection. Similarly to what happens in a controlled artificial environment such as aquaponic cultures, the human subjects in my installations act by relating to each other in a controlled ambience capable of change and influence their bloodstreams. The light in the entire visible and invisible spectrum together with the thermal radiations are the means through which it is possible to read the emotions that rise to the body surface of the people involved.

STRUCTURE AND DESCRIPTION OF THE INSTALLATION

This installation is a project that translates data from the human body (motion, temperature of the body and its changes) into images and sounds. These data are captured from thermographic cameras and infrared cameras. The moist parameters captured change accordingly to audience's sensory and emotional response that can be accidental or caused by the surrounding environment that is characterized by synthetic elements (sounds, cameras), material (smells, objects) and human (performers).

The interactive installation involves two different environments (room A, room B) that convey two paramount concepts:

1. The *inner world* (unconscious part) in which feelings and sensation are created and elaborated (room A)
2. The *outer world* (conscious part) that is how and where is expressed what is inside and how start communication with others and the reality (room B).

The main features of the *inner world* are:

a difficult access
a comfortable place (at least in most cases)

In the installation this idea will be represented by a room (A) that will have the following features:

- Darkness
- Presence of sounds
- Presence of odours
- Presence of objects
- Presence of performers that, through their body and tactile stimuli, will seek to provoke physical contact with the visitors
- Thermal cameras (Figure 1) that will detect the change of the body temperature of the audience in relation to what is happening in room A.[1] The software Max Msp/Jitter (Figure 1, Figure 2) uses the data from people in room A in order to transform some parameters of the video that will be played in room B (colour filtering, overlapping of images).

1. The audience could hear amplified voices, such as recordings of their own voices recorded at the entrance. The recognition of their own voice may cause embarrassment. Otherwise, contact with the performers could cause embarrassment and pleasure or disgust and fear.

Figure 1: Thermographic camera is a tool for recovery and forfeiture of video data related to the temperature of the body of any human and non-human being or objects. The device also captures the differences and changes of temperature in the same body or between one body and another.

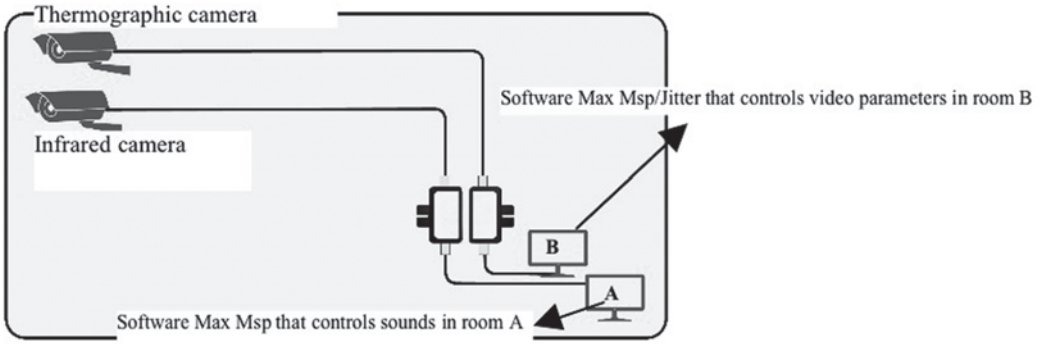

Figure 2: Cameras' wiring system.

- Infrared cameras, together with the software Max Msp (Figure 3b), let me design an audio-motion creativity tool that recognizes body movements in real time and transform these informations in combinations of sounds or changes of the sound structures that are played in room A (Figure 2, Figure 3b).

A brief reference to the characteristics of the entrance of the room: The access to the inner world is complex and therefore the entrance area to room A will have some specific characteristics to underline the difficulties of accessing it. An unstable floor and irregular walls with restrictions (various materials that makes the passage impervious, Figure 4) will be present. Entering our own inner world should not be an automatic and fleeting gesture; this constricting passage will serve to bring people to a higher level of consciousness and awareness.

The key elements of the *outer world* are:

The easy access
The control
The phase of transition from the inside
The liminal space existing before it (between inner and outer).

Figure 3a: Representation of an infrared camera system.

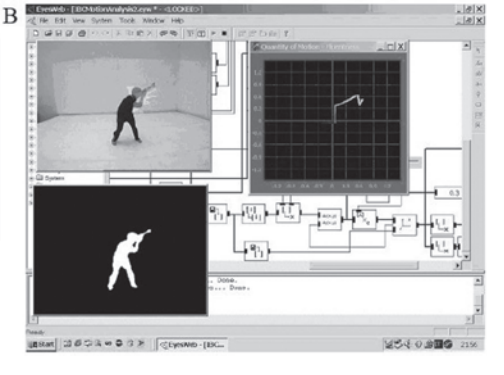

Figure 3b: Max Msp/Jitter software.

Figure 4: Representation of some restriction that can be placed in the corridor before the entrance in room A.

In the installation this idea will be represented by a second room (B) that will have the following features:

- A screen
- Projection of a video (a movie with images of places and people)
- Presence of light
- No amplification of sound (only the presence of background noise in the room).

A brief reference to the characteristics of the entrance of this room: The access to room B, the second part of the installation, is much easier: an opening without a door but an elastic membrane (like a curtain), very simple to open or to circumvent passing through. This simplicity in the entrance represents the

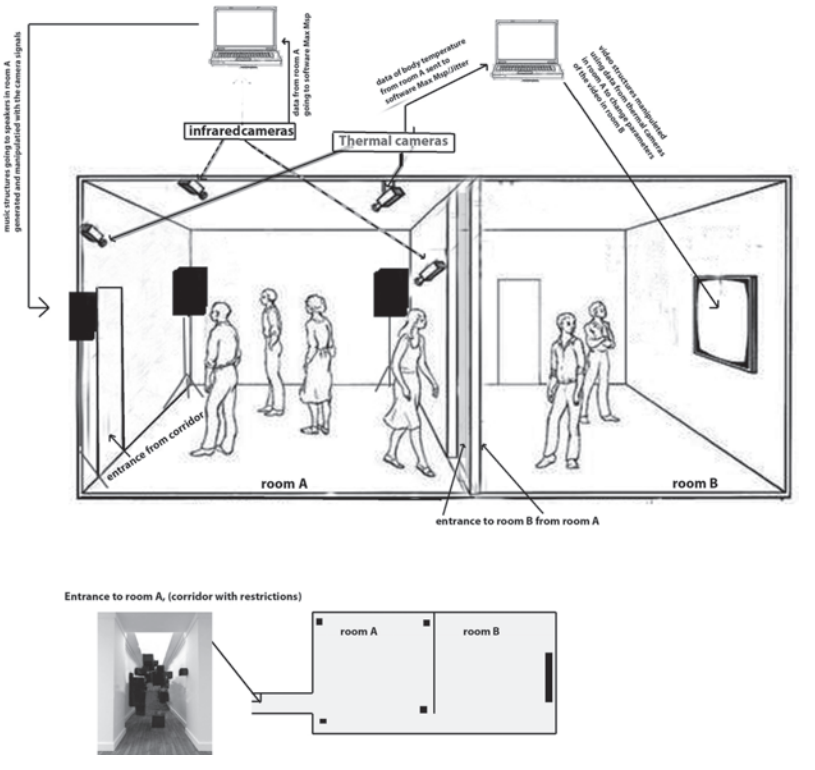

Figure 5: Representation of room A and B – spatial and wire plan.

fact that the externalization is generally a simpler and less conscious action than looking inside the inner world. What we say and show outwardly can be filtered, also simplified and schematized, while the things we think and we have inside are not only the most honest and strong but also complex and hard to be moulded. Apparently, there is a greater management of what we are or want to be and say outwardly. However, more disappointment and frustration exist, due to the simplicity or 'poverty' that occurs during the transition from the inside out.

INTERACTION BETWEEN THE TWO CONCEPTS

This installation focuses on a dynamic process of interaction between a wet system (blood, sweat, evaporation, therefore, the body as liquid entity) and a dry system represented by the technologies (the innervated and technologically immersive environment of rooms A and B) that allows to read and use the moist parameters.

In this context also take place a recursive symbiosis between people who act and interact with each other (room A) similarly to the interactions that occur between different organisms in acquaponics. There is also another type of symbiosis that is to be established between the inner world (unconscious part) and the consciousness (outer world) within the same individual. In this case the individual is himself an acquaponic system in which the interacting

organisms are precisely the consciousness and the inner world (represented by the rooms A and B). The interaction between the interiority of the audience in room A (their feeling and their mental experience in the darkness and the alterations in body temperature) and what happens to the video that is shown outside (conscious part), located in room B is not based on the image of the viewers' bodies per se but only the variations of them (in particular temperature's variations). The data of change in the bodies' temperature, sent to the computer and the software Max Msp/Jitter, will control and manipulate some parameters of the video in room B (colours filters, timing and velocity of images, selection of frames). This means that the video in room B does not have anything in common with the visual parameter in room A but only with the temperature and moist parameter in it. The mismatch between what is shot (seen) inside and what is projected outside expresses the incongruities between the inner world and what emerges of it. Even if we can strive to express our true selves, others might perceive only part or just the effects of what we feel and think. In the same way, the computer does not send the image of the people in room A into the monitor in room B, but it sends simply the effects of what is happening.

At the same time the infrared camera captures the gestures and movements of the audience in the room A; the motion capture will be used to manipulate the sounds played in the room itself. This represents the effects of the inner investigation: looking inside cannot leave indifferent but it certainly has an impact on us.

The contemporaneity of events in the two rooms represents the idea that people and the world in which they are immersed are a continuous flow. In this flow, all structures, boundaries, liminal spaces and properties that constitute what we are can be outlined and reconfigured in a non-sequential and non-linear manner. Our being and the world itself are constantly reworked in a dynamic and symbiotic relationship with each other.

SUGGESTED CITATION

Lopreiato, P. (2014), '*Endless Fire*: Multimedia interactive installation involving the use of thermographic cameras for the measurements of moist parameters (human temperature) in relation to sensations, feelings and the technologic environment', *Technoetic Arts: A Journal of Speculative Research* 12: 1, pp. 39–46, doi: 10.1386/tear.12.1.39_1

CONTRIBUTOR DETAILS

Paola Lopreiato is originally from Calabria and studied in Florence graduating in piano at the Conservatorio and in painting at the Accademia. Then she specialized in Electroacoustic composition at the Department of Music and New Technologies in Florence. Her Multimedia creations were realized in SANTARCANGELO39, 7 stanze in cerca di autore in MANTOVA, Marino Marini Museum Piazza della Signoria Festival della Creativita Palazzo Strozzi in Firenze. Also exhibited in UK University of Chester, University of Bournemouth, Sheffield Drama Studio, Belfast SARC, in USA SEAMUS 2011 and 2012, New York City Electro acoustic Music Festival 2010, 2013 and 2014, NYU, Stedman Art Gallery NJ, Rutgers University, MONTANA State University, in Canada Winnipeg University, in Greece Corfu Academia Yonica, Kefalonia ICAC gallery and the Athenian I-Club, in Mexico Fonoteca National 2011, in Slovenia Ljubljana ICMC 2012, in Australia Perth ICMC 2013. She

has an M.Phil. in electroacoustic composition from University of Sheffield and is currently Ph.D. student in new media art at Plymouth University, Planetary Collegium. Her research interests include the multisensoriality, electronic and computer technology, interactions between gesture, image, sound and word. She is also teaching at the conservatorio of Perugia.

Contact: Planetary Collegium, School of Art and Media, Roland Lewinsky Building, 305 Plymouth University. Plymouth, UK.
E-mail: paolalopreiato@hotmail.com
Web address: www.paolalopreiato.com