InFracta: the Body as an Augmented Instrument in a Collaborative, Multi-Modal Piece

Thales Roel P. Pessanha
Institute of Arts
Interdisciplinary Nucleus for Sound Studies
University of Campinas – Brazil
thalesroel@hotmail.com

Thiago Rossi Roque
Institute of Arts
University of Campinas – Brazil
thiago.roque07@gmail.com

Guilherme Zanchetta
Institute of Arts
Interdisciplinary Nucleus for Sound Studies
University of Campinas – Brazil
guilhermezanchettac@gmail.com

Lucas B. Pereira
School of Electrical and Computer Engineering
Interdisciplinary Nucleus for Sound Studies
University of Campinas – Brazil
lucasbertoloto@outlook.com

Gabrielly Lima de Oliveira
Institute of Arts
University of Campinas – Brazil
limadeolivera.gaby@gmail.com

Bruna C. M. Pinheiro
Institute of Arts
University of Campinas – Brazil
bruu.cmp@gmail.com

Renata F. P. P. Paulino
Institute of Arts
University of Campinas – Brazil
renatapimpinatti@gmail.com

Tiago Fernandes Tavares
School of Electrical and Computer Engineering
Interdisciplinary Nucleus for Sound Studies
University of Campinas – Brazil
tavares@fee.unicamp.br

ABSTRACT

This paper discusses the creative process of the piece "InFracta: Dialogue Processes in a Multi-modal Environment". The discussion concerns the dialogues between the dance, music, image, and technology knowledge domains, which were all present in the construction of the piece's poetics. The interaction between these domains fostered resignifying the dancers' gestures, so that their bodies interacted with a sound environment as if they were augmented instruments. This discussion adds to previous work on technology-mediated multi-modal art, in special concerning the contribution and the emergence of meaning related to each of the knowledge domains involved in the piece.

1. INTRODUCTION

Although dance and music have grown as separate disciplines in Euro-American art tradition, their relation dates back to the beginning of art history. Dance and music have been deemed inseparable [1], or simply two perspectives of the same activity [2].

It was only by the end of the XIX century that these two art forms began once again to be perceived as two faces of the same expression. From the *Ballets Russes* and the *Gesamtkunstwerk* to Wassily Kandinsky, many sought a combination between sound, movement and light [3].

The idea of multiple sensory stimuli and how it affects our experience over art perception has drawn the attention of many artists and researchers since the second half of the XX century, names such as: David Rokeby, Kasper Toeplitz, Myriam Gourfink, Thierry De Mey, Pierre Jodlowski, and many others have contributed with pioneering works, whose combination between motion and sound, motion and image, or this three together causes an interdependent relation between these artistic objects.

It was in this context, from the interest on multi-modal stimuli, combined with the increasingly frequent use of technology in arts, that the last decade has seen an emergence of artworks combining multiple artistic disciplines mediated by technological approaches, what today is called multi-modal art.

As an illustration of the early productions in this set of art, we see in *Re(PER)curso* (2008) [4] an interactive mixed reality narrative where two humans performers – a percussionist and a dancer – and a number of real-time synthetic "actors", including sonification, virtual cameras and an anthropomorphic avatar, explore the confluence of the physical and the virtual dimensions underlying existence and experience.

By 2012, Pablo Palácio and Muriel Romero presented *Stocos* [5], the third part of a trilogy centered on the analysis and development of the interaction between sonic gesture and dance gesture. This piece creates a three-dimensional space in which natural and artificial entities coexist, interrelate and overlap. It relies on stochastic processes and swarm simulations in order to creating of dance movements, sound synthesis, musical compositions and visual imagery. Throughout the performance, a dense network of mutual interactions among algorithms, dance, music and visuals establishes coherence, simultaneity and presence in the behavioral and aesthetic characteristics of the piece.

Another piece, called *MinDSounDS* (2015) [6], narrates the story of a virtual avatar – a humanoid projection on screen – that learns the movements of a human dancer and builds its own movements. This process is mediated by