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**INTERCORPOREALITY AND TECHNOLOGY:  
TOWARD A NEW COGNITIVE, AESTHETIC AND COMMUNICATIVE  
PARADIGM IN THE PERFORMING ARTS**

by

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## **EXECUTIVE SUMMARY**

The goal of this thesis was to reassess the relationship between the moving body and technology, and more specifically, to focus on recent perspectives in the performing arts which inscribe new manifestations and dynamics of cross-pollination between the somatic and technology. According to Dr. Andrea Davidson, 'Such research has rarely been formally identified with the specialised field of somatics' (2013, p.3). The thesis thus proposes to reflect on the experience and conception of the performative body in the link it entertains with technology. Investigating this relationship, it defines a new paradigm, that of an 'interfaced intercorporeality'. This paradigm is constructed with special attention to a different relationship revealed between the interface and the notion of a corporal potentiality or 'interval'. In particular, the thesis focuses on the concept of a 'collective body' based on this relationship and on practical research conducted within the framework of my research, along with the methodology that supported it.

The research and creative work that are presented derive from experiments I conceived, conducted and participated in making. My analysis is thus based on direct experience. The relationship between the somatic and technology notably led me to focus on the notion of embodied cognition or 'bodily knowledge' and for this, to re-examine the work of Maurice Merleau-Ponty. As a consequence, this return to the experiential also required revisiting definitions given by the Greeks concerning the aesthetic as a reference to sensation and the ability to perceive. The thesis approaches the body as the ground and basis for creating work, as well as for testing the effect(s) that technology has on it. Experiments conducted sought to develop greater sensory and perceptual awareness in order to invest the relationship of somatics/technology in a dimension that could potentially constitute a transformation of self, of one's relationship to others and to the world.

Merleau-Ponty's phenomenological existentialism formed the basis for explorations made to forge links between the somatic and technology. However, it is important to clarify that my intention was not to make an analysis of phenomenology *per se*. It was rather referenced as a means to explain the framework of my research in relation to lived experience, sensation, and specifically, to my creative approach involving new technologies. Merleau-Ponty's methodology includes subjective, first-person accounts of 'lived experience'. Third-person accounts, or so-called 'objective' positions, are also included. These accounts are then shown to evolve towards an ecosystem of interaction and movement in order to experience and test the production of theory and practical experimentation involved in the methodology I adopted.

The thesis incorporates knowledge from several disciplines, but principally from the field of dance and technology. Highlighting sensorial and perceptual phenomena related to the transformation of the body through technology and subjective experience, it takes into account an interdisciplinary perspective that is linked to this problematic. The thesis begins with an introduction to phenomenology in which the concepts and positions of Merleau-Ponty are outlined, including those of anti-dualism, the lived body, the ontology of the body, corporeality, intercorporeality and the flesh. Chapter 1 looks

at the evolution of this philosophical movement throughout history and continues with a history of the body in phenomenology, an analysis of certain applications of phenomenology in the field of dance and subsequently, in the specific field of dance related to technology.

Chapter 2 comprises a literature review. It also presents the bases of reductionist thinking, the proposition of a return to integrative thinking and issues concerning instrumentalisation, the double and the complexification of the self. It further examines the history of ideas surrounding the relationship between the body and technology, notions of the real-virtual-actual and a history and problematics of the interface. It concludes with a presentation of theories on the notions of potentiality, the interval and real-time.

Chapter 3 presents my artistic background, an historical overview of the trends and principal ideas that have influenced my work, as well as an examination of the field of dance and technology from the point of view of its history and more recent developments.

Chapter 4 is dedicated to an analysis of the research methodologies employed in the practical research for this thesis and identifies related issues. An analysis of problems encountered with existing methodologies notably highlights a need to invest in other methodological modes for practical research of an interdisciplinary nature. The chapter continues with a presentation of some of the methodologies currently used in the field of dance related to technology. The principles underpinning the specific creative research methodology I experimented with are then presented, proposing an adaptation of the aforementioned methodologies in order to respond to the dynamics of collective research of an empathic nature that are specific to my approach and also in order to invest in the link between the somatic and technology my project proposes. This proposition modestly attempts to respond to the lack of methodologies observed in the field of artistic practical research.

A discussion of the experimentation involved in the practical research for the thesis is made in Chapter 5. Two creative experiments are analysed. Their aim was to investigate and develop a collective physical body composed of five dancers in constant contact, whose movement and relationships create what I call a 'collective sound body'. This collective entity produces sound in real-time which is simultaneously spatialised. The analysis takes into account the ways these two bodies are interdependent and constantly interrelated.

Schematically, the first experiment served as a basis on which to found principles related to the collective body, while the second experiment developed them. The chapter further outlines creative strategies that were employed to test principles of self-organisation linked to sensation and stemming from the somatic techniques employed. It also returns to some of Merleau-Ponty's main concepts that were implemented and tested in performative experience: intercorporeality, the lived body, the dynamic of continual transformation and the principle of coexistence. Lastly, Merleau-Ponty's investigation of sensation and perception and his concept of sensory chiasms are related to the experiments' multisensory exploration and theme of intersubjectivity which are then proposed as leading to the possibility of intercorporeality.

Chapter 6 forms the conclusion and seeks to identify new knowledge generated in the thesis. Essentially articulating another vision of the performative body as



developed through its contact with technology, the findings, both practical and theoretical, bring to light a different understanding of the body rendered through a dissolution of psychophysical borders in the development of the performative model I called the 'collective body'. The thesis further proposes that the 'collective body' and its evolution as the 'collective sound body', open up the path to a new approach to interfaces and further, to what I propose as a theory of interfaced intercorporeality. This research aims to reintroduce the body and its specific intelligence in the understanding and building of relationships that can be renewed. The technology used in these experiments was considered as a physicality and the activator of a reconfiguration of sensory-perceptual processes that the thesis argues can lead to the final paradigm of 'interfaced intercorporeality' it proposes.

References to the documentation included on the DVD are found throughout the thesis but mainly in Chapter 5. Along with the theoretical research presented, the two artistic explorations created are documented on the DVD.

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## **Author's Declaration**

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Graduate Committee.

Work submitted for this research degree at the Plymouth University has not formed part of any other degree either at Plymouth University or at another establishment.

The practical projects related to the thesis have been supported by a number of grants and partners which are listed in Appendix 8.1.5. They have been developed during the period of studies under the Planetary Collegium doctoral programme. Those practical projects are detailed in Chapter 5.

A DVD that documents the practice work as well as the interview related to the methodology, through images and videos is annexed to this manuscript in Appendix 5.

Several papers and books chapters related to this thesis were published (Appendix 8.1.1), conferences performed (Appendix 8.1.2) and relevant seminars and conferences regularly attended (Appendix 8.1.3) are listed in Appendix 8.1. Publications especially related to this thesis are annexed to this manuscript in Appendices 8.2.1/8.2.2/8.2.3/8.2.3/8.2.4/8.2.5/8.2.6.

The results of this research were presented and performed at numerous and relevant venues and are listed in Appendix 8.1.5.

Word Count of main body of thesis: 76,506

Signed:

A handwritten signature in black ink, appearing to read 'S. Muller', written over a light grey grid background.

Date: 2 December 2014

## INTRODUCTION

### **An overview of my training**

My artistic training began in a non-professional setting at the age of four with classes in classical ballet in Montreal, Quebec, in the late 1960s. I then trained in modern dance and jazz until the end of my teenage years at which time I stopped dancing. During my adolescence, I read the works of many philosophers of whom Nietzsche, Sartre, de Beauvoir, Caillois, Serres and Thévoz were those who influenced me the most. It was also the time of my pre-university education at the *C.E.G.E.P. (Collège d'enseignement général et professionnel) de Maisonneuve* in Montreal, where I participated in an universal science training program that included advanced courses in biology, chemistry, physics and mathematics. This training lasted four years. It is due to this parallel training that my interdisciplinary approach emerged. Both my teachers in classical and modern dance, notably Nina Bédard at the school of *Les Grands Ballets Canadiens*, and my teachers in science, transmitted their passion to me. It was thus with experience as a dancer and a scholarly mind that I approached science.

Later, in early 1980, I returned to dance, taking a workshop with American postmodern choreographer Deborah Hay at *Tangente*, a venue in Montreal for the production, development and documentation of contemporary dance. It was a shock and a revelation for me because having trained in ballet, it was my first contact with ideas stemming from modern and post-modern dance. As I explain in Section 1.4. "An overview of the implementation of phenomenology in the field of dance", it was especially the principle of 'discovery' and the 'open (or free) appearance of method' referred to by Fraleigh (1987, p.xxxiii) that struck me. At last, I had encountered a dance form that placed emphasis on modes of discovery with corresponded more to my

artistic convictions and approach. It was at this time that I began training in dance in a professional manner. At the time, American choreographer Jo Lechay had opened a studio in downtown Montreal where she organised numerous workshops that she defined as alternative modes of training. For approximately three years, I took intensive workshops in contact improvisation, Bartenieff Fundamentals, the Alexander Technique, release techniques, floor barres, diverse approaches to yoga and meditation, hybrid methods focussing on breathing and *Kundalini* with choreographer Marie Chouinard, *Butoh*, *Bharata Nayam*, *et caetera*. This training became a mainstay for me.

Between 1985 and 1989, I undertook a full-time, four-year undergraduate degree program in the Fine Arts at Concordia University, Montreal, with a specialisation in choreography along with additional courses in anthropology. It was a very intense moment in my life. The program, founded and led by Professor Elizabeth Langley, was avant-garde for its time, with an interdisciplinary approach integrating theatre, the visual arts, technology, somatic techniques, contact dance, *Vajrayana* techniques based on Buddhist teachings developed in connection with dance at *Naropa* University in Colorado, United State<sup>1</sup>, and international workshops in Balinese dance, *Butoh*, sessions with French, Belgian, German choreographers, *et caetera*. Elizabeth Langley was a passionate and dynamic woman who wanted to present new forms of creative process and emerging choreographic forms. She pushed us to dare, experiment, collaborate, question and draw inspiration from different sources when we needed it. She was a radical woman, a trailblazer in constant activity. In this sense, she had much in common with Roy Ascott, director of the Planetary Collegium and Ph.D. program to which I belong.

The pedagogical value of this highly interdisciplinary program was to open up different worldviews, which in turn, were to inform my approach to creative work. Just

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<sup>1</sup> Viewed on 1<sup>st</sup> July 2014, online: [http://en.wikipedia.org/wiki/Naropa\\_University](http://en.wikipedia.org/wiki/Naropa_University)

as my dance training had fed my understanding of science during studies at the *C.E.G.E.P.*, this latter program nurtured my creative process and gave me, amongst other things, an understanding of the world at the microscopic level of molecules, atoms, *et caetera*, and an approach to time-space according to principles stemming from physics, chemistry and mathematics. With this dynamic, my university education was, a constant field of exploration.

### **An ontological opposition**

With this dual and hybrid training, I did not experience an ontological opposition current at the time and in the particular environment I was working in, between the natural and the artificial, which corresponded to a struggle between the body and technology or between the field of performing arts and the field of science. With respect to this issue, Andrea Davidson<sup>2</sup>, former dancer and co-founder of leading French research groups studying the relationship between dance and technology (*Anomos* and the *Médiadanse* laboratory affiliated with the *Université Paris 8*), currently teaching in the Dance Department of the University of Chichester and whom, along with Sarah Rubidge, co-organised the *Somatics and Technology Conference* at the University of Chichester in June 2012, notes, in an article entitled 'Somatics: An orchid in the land of technology'<sup>3</sup> that I am one of the rare choreographers to have integrated technology from the outset of my choreographic practice. She also highlights the interdisciplinary and sensory aspect of my work:

[o]ne of the rare choreographers to have worked exclusively with new technologies since the beginning of her career, [Choinière] remarks that in all her creations, the destabilisation produced by an external technological agency, on the contrary, presents a means of transforming and "reorganizing" the performer's sensoriality and perception. Internal awareness becomes hybrid as the perception of what is mediated intertwines with the sensations of the organic body, provoking changes in sensoriality, greater awareness and a new mode of performative behavior. In this sense, Choinière views technology as a potential tool for self-transformation (Davidson 2013, p.10).

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<sup>2</sup> Dr. Davidson has been following my work since my first creation *Communion* 1994-1999.

<sup>3</sup> Article published in a special issue of *Journal of Dance and Somatic Practices - Somatics and Technology*, volume 5, number 1, Intellect Press, United Kingdom, Dr. Davidson co-edited with Sarah Rubidge in 2013.

Art critic Andrée Martin, professor in the Dance Department of the *Université du Québec à Montréal*, a department that takes as its focus the somatic, also remarks the interdisciplinary and sensory aspect of my work. Writing in *Le Devoir*, she also refers to the historical and ontological break of which I speak:

[t]here is no real language or rhetoric to speak about Isabelle Choinière and her collaborators' work. Presented in the series "*Le Corps électronique*" at Tangente, this scenic poetry, worthy of the twenty-first century, puts us in touch with a world and imagery that are resolutely futuristic, a kind of fifth dimension where the body occupies the place of honour. Breaking the historical and ontological opposition between the human being and machine, this performance, at the very least multidisciplinary - a real fusion between dance, video, graphics and sound - offers a unique visual and sensory experience. Through a particularly successful use of technology, not as a mere complement to the dancing body, but as a direct extension thereof, the artists question current approaches to stage performance. Here, terms such as sensitive technology, the fluid body, "tactility", scarification, *et caetera* replace common terms such as narrative, dramaturgy, character, emotion, *et caetera* normally associated with works for the stage (Martin 1997, p. B9).

Over the course of the fourth year of my degree, I created two interdisciplinary works. One work was selected to represent Canada in the international festival *Itérations* which took place at the *Fondation Danaé au Centre international de recherche et création transdisciplinaire* in Pouilly, France in 1990. Living my first experience of an international festival, it opened up a world for me, because above all, these festivals are meeting places for encounters and enriching one's worldview, places where one can measure one's work in relation to global trends and places where one can experience audiences who communicate in different ways. As an artist-conceptor-dancer, it was a time of exploration and learning.

## **The interdisciplinary context of Montreal**

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Figure1 has been removed due to Copyright restrictions.

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Figure 1: Isabelle Choinière, *Scanned body*, 1994<sup>4</sup>

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<sup>4</sup> Viewed 24 November 2014, online: <http://www.erudit.org/culture/inter1068986/inter1109708/index.html>

After the festival, a serious injury forced me to stop dancing for almost two years. But returning to dance in 1993, I was approached by a computer graphics artist who had access to motion capture studios. At the time, these systems were inaccessible for Quebec artists and only available to the corporate world or the film industry. I accepted to collaborate with artist Lucie Marchand and had my first experience of body scanning and motion capture. Our intention was to integrate these experiments in live performance. This experimentation led to the first version of *Communion* - the work-in-progress *Le partage des Peaux* - which was presented in September 1994 at the opening of *Le Mois de la Performance* at *Galerie la Centrale*, an artist-run center dedicated to the presentation of works by women. During this same period, Montreal was in a period of artistic effervescence. What is called the 'electronic arts' was in full swing. It was actually a term for an interdisciplinary approach that emphasized the integration of a form of technology (video, 3D, virtual and/or immersive environments, film, computer programming, interactive systems, installations, *et caetera*.). Artists opened their studios to other artists, the world of the performing arts collaborated with the media arts. A number of art centers, such as *PRIM* and *Vidéographe*, offered space and equipment to support this experimentation. It was also the height of raves or clandestine parties that integrated media immersive environments. Artists of the 'electronic arts' scene in Montreal organised these events and used them as a field of experimentation.

During this period, I reestablished contact with a former *C.E.G.E.P* student, Jimmy Lakatos, who had become videographer and was at the epicenter of this movement. We began a collaboration. I was, in some way, a reference for questions concerning the body. We worked together in a climate of openness, curiosity and creative experimentation where there was little hierarchy and instead, a sharing of expertise. Meanwhile, I had also met a philosopher who was part of this group, Bernard Schütze. I asked him to direct me in my readings in order to understand this field and

links I could make with it. It was in this process of cross-pollination and collaborative means that I had my first experience of integrating technology with the bodily techniques I had trained in. These periods profoundly influenced my artistic development and manner of working. They also shaped my experience as a student, practitioner, researcher and teacher in the sense that I would later train other dancers in the methods that I had first experimented on myself, and then with them.

### **The international interdisciplinary context**

Along with the excitement we were experiencing locally, a similar dynamic was at work on the international scene. This spirit of openness was noted by American choreographer Yacov Sharir, one of the vanguards in the United States in the field of dance and technology, and who is also a member of the research group of the Planetary Collegium's doctoral program: '[t]he field of technology and art inherently and necessarily blurs the boundaries between disciplines and has also been the site of significant communal and collaborative work models' (2012, p.27). Philippe Baudelot, professor at the University of Nice and the *Institut Supérieur des Techniques du Spectacle à Avignon- I.S.T.S.*, journalist and former director of the *Monaco Danse Forum* (2000-2006) in charge of digital dance and an important member of the international community of dance and technology, adopts a similar position to Sharir's. In an email communication on 27 May 2008, he explained what constitutes a European view of this interdisciplinary movement involving the performing arts and technology:

[f]irst off, I would say that the digital performance is an age-old dream in the world of playwrights and choreographers, a dream to free the constraints of space, time and gravity and to enter fully into the imaginary and establish relationships with the audience that involve both an imagination made real and the theatrical ritual, and it is neigh impossible to understand what is going on today without taking this dream into account.

That being said, the work of so-called digital artists, cannot be understood without taking the logos rupture, that we are currently experiencing, into account. A rupture that some link to the information society where the lived experience of individuation, time and space and the imagination cannot be placed in continuity with what I stated above in the first paragraph, but where (this is also one of the aspects of the hybridization of our world in the making) the historical articulations are (remain) by all accounts powerful.

I don't think that one can really speak of trailblazers, for the contents, forms and relationships to technology are extremely diverse and I find it very difficult to allow myself to distinguish what is representative and what is not.

It is very difficult with an art that I believe to be still in the making and which has not yet chosen a school, to objectively distinguish works that are representative. In fact, the wealth of this movement resides in its constant mobility, the artistic lags that are constantly at work, the artists' uncertainties. We are living a moment of invention, so let us invent for the moment and refrain from choosing.

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Quotation have approval to be used

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### **Somatic techniques: my body as ground of exploration and experimentation**

The 1990s marked the beginning of my professional experimentation and personal research. They were also years of numerous research trips and travels to present my creative work around the world, especially in Europe and Latin America. Somatic practices had marked me because they allowed me to access and develop greater internal awareness of my body. Through somatic exercises, I gained new sensory references: for example, those related to deep muscles I had not felt before, an which can eventually make one move differently and further, allow for other types of sensations and use in performance when communicating with an audience (performative projection). This process was a true inner awakening: one that depends on developing sensory awareness.

Somatic practices had thus given me the tools and curiosity to find answers in my own body. It was through developing awareness of the inside of the body (my internal muscles, new sensations, *et caetera*) that I started to use this 'new space' (the one inside my body) to work and anchor my creative process. Knowledge of the internal body could now feed my artistic process. After five years of intensive training, mainly in Bartenieff Fundamentals and the Alexander technique, these practices gave me what I identify as a personal research methodology based on the development of sensation and perception. This methodology, mostly intuitive at the time, was to become the basis for research I would use with dancers. In research conducted for this thesis, I felt a need for



a methodology that respected subjective experience but could possibly also create a dynamic for revealing broader cultural assumptions and practices. I needed a methodology that could operate on modes of resonance, empathy, in a collective and collaborative dynamic that were my own. Throughout the years, I have experimented with the foundations of this methodology. With this thesis, it became more structured and developed. These methodologies and their stages of development are analysed in Chapters 4 and 5.

With practice as an anchor for my research, this thesis proposes to question the relationship between dance and technology. As a result, it proposes to shift, in a crucial way, the discussion concerning the relationship of the body and technology, towards an analysis based on sensory perception and the evocation of complex relationships. These two themes come to light in the central focus of the thesis concerning the link between somatic practices and technology. As Andrea Davidson specifies, my current research stems 'from a dance practice firmly rooted in somatics' (2013, p. 11).

### **The question of duality**

On the question of the body, dualistic thinking, as propagated by Western thought, arises in a context of relationships emerging between the somatic and technology. I share Davidson's conclusions on this point when she writes, '(...) for artists today, binary oppositions such as *sōma/techné*, body/machine, human/non-human, may now be outmoded or irrelevant' (Davidson 2013, p.3). Susan Kozel, dancer-choreographer and Professor of Dance at Malmo University, Sweden, offers an analysis in the context of new media which combines dance and philosophy that concurs with the above while also denouncing the evils of the infiltration of dualist thinking:

Next, in a broader discursive context that includes cultural practice and attitudes not confined to academia, it seems that there continues to be a sense that computers and virtual technologies of

all kinds engineer a duality between human and computer, material and immaterial, analogue and digital, organic and inorganic, and body and mind, with the body side of things coming out the worse for wear (Kozel 2007, p.xvii).

As a result, this thesis reflects on how dance can contribute to a broader understanding of technological evolution and to the aesthetic, cognitive and communicative paradigms emerging from this dynamic, considering the latter as being situated outside of dualistic thinking.

### **The subject of the thesis**

This thesis proposes to reassess the relationship of the moving body with technology, and, more specifically, highlights recent perspectives in the performing arts that focus on new manifestations and dynamics of cross-pollination between the somatic and technology. As Andrea Davidson remarks: 'Constituting an area of enquiry that examines interconnections between perception, sensual experience, bodily knowledge and contemporary practices/processes/concepts integrating new media, such research has rarely been formally identified with the specialized field of somatics' (2013, p.3). This thesis thus proposes to reflect on the experience and the conception of the performative body in its relationship with technology.

Investigating this relationship, the thesis reveals a new paradigm, that of 'interfaced intercorporeality'. This paradigm has been developed with special attention to another relationship between the interface and the development of the notion of a bodily potentiality, or interval. In particular, it focuses on the concept of a 'collective body' based on this relationship and on the process of creative research conducted within the framework of the thesis, as well as on the methodology that supported it.

## Issues raised

The thesis takes as its point of departure an identification of issues related to the moving body in relationship to technology, as well as of questions related to the performative body: those of phenomenology, the ontology of the body, empathy, and the performative attitude. Firstly, and as a basis for this reflection, the thesis outlines how each of these areas has been founded upon a Western analytic tradition that is based on fragmentation, dichotomy and duality. Several theorists have identified it within a scientific context (Koestler and Smythies [1969] 1971; Ho 1993), as well as within an aesthetic and philosophical context (Buci-Glucksmann 2001; Burnham [1968; 1969] 1973; Davidson 2013; Kozel 2007; Fraleigh 1987; Gromala 2007; Nobrega 2009). This analytical tradition, partially generates a series of problematics resulting from a reductionist dynamic, including materialism and the instrumentalisation that comes along with it. In my view, instrumentalisation is connected to, and stems from, a confusion and misunderstanding of the nature of technology and inherent relations between the moving body and technology. The thesis questions this legacy and rather proposes a new logic of interconnection, based on a type of integrative thinking in which the notion of the interval plays a major role.

Amongst other theorists, the notion of the interval was developed by Christine Buci-Glucksmann (2001) who relates it to *Mâ* - a conception of space developed by the Japanese - as well as to virtuality and potentiality. The relationship between the moving body and technology as developed in the context of the thesis is based on an interdisciplinary approach. Addressed through the lens of bodily practices, the research involved "reintroduces" the body and its specific intelligence in an understanding and construction of new relationships. Taking into account an international debate amongst critics and theorists surrounding the integration of technologies in live performance, the thesis also integrates fundamental aspects of the ontology of the body in the twentieth

century for its argumentation, demonstrating how an ontological shift of the body in contact with technology can lead to two emerging concepts: those of a 'physical collective body' and a 'sound body', or 'collective mediated body'. This ontological shift constitutes one of the major secondary hypotheses of the thesis.

## **Hypotheses**

This thesis is based on the following emerging paradigms: a cognitive paradigm, an aesthetic paradigm and a communicative paradigm which can in turn be seen to lead to the need for a methodological process of an evolutionary type based on these paradigms (Burns 2009). This methodology is discussed in Chapters 4 and 5.

The scarcity of methodologies specific to practice as research as noted by several authors (Fraleigh 1987; Kozel 2007; Nelson 2013; Smith & Dean 2009; Barrat & Bolt 2010; Ascott [1966-67] 2003; Pavis 2005; Le Coguiec 2009; Fortin 2009; Burns 2009; Gosselin 2009; Poissant 2009) points to a void in this area to be filled. For art practitioners, there is no other choice but to invest in an understanding and development of a methodology that reflects and specifically serves their practice.

A second hypothesis proposed in this thesis is the emergence of other types of performative behavior in the context of new contemporary performative stages. This last idea is anchored in the passage from an aesthetic oriented towards objects to behavioral processes that are grounded in cybernetic thinking<sup>5</sup>. The transition between

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<sup>5</sup> The term cybernetics was popularised in 1948 by mathematician Norbert Wiener in his seminal work for the discipline, entitled *Cybernetics, or Control and Communication in the Animal and the Machine*. This field would later be referred to as 'the science of controlled analogies between organisms and machines' (Dupuy 1994, p.42). It is a science of self-regulating systems, which focuses not so much on components as on their interaction, and where, their overall behaviour is considered above all. It has its origins in the *Macy* conferences and is a movement that was widely interdisciplinary and had a major influence on fields as diverse as the cognitive sciences, information and communication sciences and the arts, to name but a few. The *Macy* conferences were organized by the *Macy Foundation* in New York between 1942 and 1953 and initiated by the neurologist Warren McCulloch, who brought together an interdisciplinary group of mathematicians, logicians, anthropologists, psychologists and economists who

these two aesthetics can be explained by what Christine Buci-Glucksmann calls 'the culture of flux' (Buci-Glucksmann 2001), a notion analysed in Chapters 1 et 2. This leads me to propose another paradigm, one of transition, that is exemplified in the collective physical and mediated bodies developed in my research and creative process. This approach is reflected in various complementary theories developed by Rolnik, Pitozzi and Buci-Glucksmann which address the invisible through their respective interpretation/conception of the virtual, the interval and *Mâ*. Enrico Pitozzi has referred to this concept as the physical potentiality of a latent intensity, or a dimension of the virtual that is already at work in the body itself (Pitozzi 2008, 2010a; Deleuze & Guattari 1980). These notions are referenced throughout the thesis.

This thesis argues that another type of mediated presence is activated by revaluing and reintegrating the body's specific intelligence and results in the activation of a new cognitive paradigm. This reintegration constitutes another one of my key hypotheses. To defend this position, Section 1.8 analyses how bodily sensation, through Merleau-Ponty's notion of sensory chiasms, can be a starting point and anchor for laying the foundations of discussions on the revaluation of bodily intelligence. I then present the theories of Howard Gardner concerning the diversity and complementarity of multiple intelligences, of which various forms of bodily intelligence are underscored: the kinaesthetic, intuition, empathy, intersubjectivity, and somatic intelligence (including principles surrounding the body's self-organisation). Chapter 2 proposes how the dissolution of psychocorporal borders (Rolnik 2006, 2007) can contribute to this revaluation. The approach I experimented with for the project's aesthetic developments related to sound in real-time and the physical and mediated collective bodies participates in the activation of this cognitive paradigm and will be presented in Chapters 2 and 5.

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had set a goal of edifying a general science of the mind's functioning. The term cybernetics comes from the Greek word *kubernesis* whose figurative meaning refers to the action of directing or governing.

Further, the intersubjectivity of communication which Rolnik terms as 'vibratory' (Rolnik 2006, n.d. c), activates a new expressive paradigm of communication. On a first level of expression, this relates to the form that emerges from the internal sensations of the performer and on a second level, it concerns these same sensations being externalised, communicated and shared with the spectator. Experimentation with this paradigm comprising two levels, resulted in the creation and testing of yet another aesthetic paradigm. The thesis thus proposes to consider how the development of this specific relationship of the body to technology can lead to the development and introduction, on the performative stage, of the concept and last paradigm of 'interfaced intercorporeality' when technology becomes the activator of a process of sensory-perceptual reconfiguration.

This dynamic is based on the development of the concept of a bodily potentiality — the interval — and introduces the notion of emergence, wherein the organisation of a new experiential form in the arts can eventually result. To illustrate this point, the thesis delivers a schematic description and analysis of the different stages of my work-in-progress that explores strategies of destabilisation I developed based on principles of somatics as well as on a consideration of technology as a physicality: a physicality that is understood and lived as a new environment, an exteroception through which a renewal of sensory and perceptual experience can occur by creating internal references. These references are not only created and embodied as a result of contact with devices that serve as forces of external mediation for/in a mediated experience, but also, they constitute adaptations which can be interesting for the choreographer as a creative potential for bodily expression and interaction with the surrounding environment. This awareness 'from the inside' – or of what is internal – was partly inspired by my readings of Merleau-Ponty and partly through my growing awareness of the body from within

and a sixth sense: kinaesthesia. The principles underpinning these strategies are presented throughout the thesis but are analysed in depth in Chapter 5. Experimentation with destabilisation required a reorganisation of the mapping of sensory and perceptual relations. It will be seen how these various experiments led me to discover the emergence of other forms of performative behavior as well as of other performative presences emerging from the proposed methodology. But it goes further. The thesis proposes that they reshape the very nature of the relationship between audiences and a group of performers, to become a 'vibratory' intersubjectivity — an intercorporeality — of which the physical and mediated collective body, according to my research, may be one of its possible applications.

## **Conclusion**

It is within this context that the research involved in this thesis concerning somatic exploration and technology, attempts to understand the complexity of an interdisciplinary and trans-cultural approach and corresponding methodology. For these reasons, the methodological model at the heart of my experimentation is that of Merleau-Ponty: a phenomenological existentialist approach that has also been adopted and developed by Sondra Horton Fraleigh and Susan Kozel amongst other researchers. This said, it is important to clarify that the intention here is not to make an analysis of phenomenology *per se*. It rather serves as a means of explaining the framework of my research in relation to lived experience, and especially, with respect to my approach involving new technologies. To paraphrase Fraleigh, Professor Emeritus at the State University of New York and Program Director in Graduate Studies in Dance at SUNY, Brockport, '[I] use the phenomenological method to describe the experience of dance as it is lived, necessarily through the body. [...] While it utilizes self-evidence, [phenomenology] seeks to describe what is basic to the phenomena being considered'

(Fraleigh 1987, p.xvi). In the case of this thesis' research, the description of the experience of dance is linked to the effect of technology on the performing body. However, while trying to understand the issue of the lived body in relation to technology, and as Fraleigh notes, '[c]ontrary to the spirit of phenomenology, I do employ previous aesthetic and philosophical theory where they apply' (Fraleigh 1987, p. xvi).

The research and creative works presented in this thesis all derive from experiments I conceived and participated in making; my analysis is based on direct experience. My performance projects, past and present, continue to explore the relationship between the somatic and technology. This relationship led me to attempt to articulate the notion of embodied cognition or 'bodily knowledge'. For this reason, the thesis re-examines the work of Merleau-Ponty. The return to the experiential also required revisiting definitions given by the Greeks regarding the aesthetic as a reference to sensation and the ability to perceive. I approach my body as the ground and basis for creating, as well as testing, the effect that technology has on it: the dancer's body is a first site of discovery. Experiments conducted sought to develop greater sensory and perceptual awareness in order to invest the relationship of somatics/technology in a dimension that could potentially constitute a transformation of self, of relationship to others and to the world. I am aware that this type of research reveals 'more questions than [it does] answers' as expressed by American dancer and choreographer Yacov Sharir (2012, p.33). Although Sharir's remarks were made in the late 1980s and early 1990s while he was working at the forefront of technological developments in dance, the situation today is similar, although issues and interests in the field of dance and technology are partially different and the technologies themselves have also advanced. Thus, these relationships and my experiments express concerns that are central to this



research: a questioning of the notion of interface and intercorporeality as well as of the paradigms these relationships generate.

### **Organisation of the thesis**

This thesis incorporates knowledge from several disciplines, but principally from the field of dance and technology, that accounts for sensorial and perceptual phenomena related to the transformation of the body through technology and subjective experience. It begins with an introduction to phenomenology in which the concepts and positions of Merleau-Ponty are presented, including those of anti-dualism, the lived body, the ontology of the body, corporeality, intercorporality and the flesh. Chapter 1 looks at the evolution of this philosophical movement throughout history and continues with a history of the body in phenomenology, an analysis of certain applications of phenomenology in the field of dance and subsequently, in the specific field of dance related to technology.

Chapter 2 comprises a literature review. It also presents the bases of reductionist thinking, the issue of a return to integrative thinking and notions of instrumentalisation, the double and the complexification of the self. It further examines the history of ideas surrounding the relationship between the body and technology, notions of the real-virtual-actual and a history and problematics of the interface, to conclude with a presentation of theories on the notions of potentiality, the interval and real-time.

Chapter 3 presents my artistic background, an historical context of the trends and principal ideas that have influenced my work and an examination of the field of dance and technology from the point of view of its history and contemporary developments.

Chapter 4 is dedicated to an analysis of the research methodologies employed in the practical research for this thesis and identifies related problems. An analysis of

problems encountered with existing methodologies points to a need to invest in other methodological modes for practical research of an interdisciplinary nature. The chapter continues with a presentation of the methodologies used in the field of dance related to technology. The principles underpinning the specific creative research methodology I experimented with are then presented. The thesis notably proposes an adaptation to the methodologies mentioned above in order to respond to the dynamics of collective research and research of an empathic nature that are specific to my approach and also in order to invest in the link between the somatic and technology proposed. This investment modestly attempts to respond to the lack of methodologies in the field of artistic practical research.

A discussion of the experimentation involved in the practical research is made in Chapter 5. This chapter refers back to some of Merleau-Ponty's main concepts embedded in the performative experience: intercorporeality, the lived body, the implementation of a dynamic of continual transformation, the principle of coexistence. In the same train of thought, he develops these ideas further with an investigation of the experience of sensation and perception; intersubjectivity which leads to intercorporeality; and his concept of sensory chiasms revealed through a structure of multisensory exploration. The thesis illustrates some of these ideas through analyses of two particular creative experiments in Chapter 5. The experimentation in question led to the development of a collective physical body composed by five dancers in constant contact and evolving through their relationships. This formation further led to the development of a collective sound body which is created by sound produced in real-time by the dancers and simultaneously spatialised. These two bodies maintain a constant interrelationship and are interdependent. Principles surrounding the body's self-organisation through sensation, deriving from somatic techniques, were amongst other creative strategies I experimented with. Schematically, the first experiment was based

on principles linked to the collective bodies, whereas the second experiment developed them.

Chapter 6 forms the conclusion and seeks to identify new knowledge generated in the thesis. References to the documentation included on the DVD are found throughout the thesis but mainly in Chapter 5. Note also that referenced texts presented are in their original translation, amongst others, those of Enrico Pitozzi.

# 1. CHAPTER I – PHENOMENOLOGY AND THE EXISTENTIAL CONTEXT

## 1.1 Introduction

The writings of Maurice Merleau-Ponty (1908-1961) were central to the development and research of this thesis. This chapter examines his interpretation of phenomenology and phenomenological method, while also serving to create the necessary theoretical anchors for the content of chapters to follow. The methodology adopted in the thesis mainly derives from principles of phenomenological existentialism as developed by Merleau-Ponty. This said, it does not take a strictly classical approach to existential phenomenology. Rather, it examines contemporary adaptations of Merleau-Ponty's thought as transformed by theorists including Susan Kozel (2007), Sondra Horton Fraleigh (1987), Isabelle Rieusset-Lemarié (2006) and Diane Gromala (2007). As Susan Kozel notes in her book *Closer*:

As a method, phenomenology involves a return to lived experience, a listening to the senses and insights that arrive obliquely, unbidden, in the midst of movement experiments or quite simply in the midst of life. Phenomenology, in short, allows me to respect these sensations and inner voices. [...] Bodies are more than just meat; they are sources of intelligence, compassion, and extraordinary creativity (2007, p.xvi).

Kozel's methodology, as an example of a modified approach to phenomenology, involves subjective, first-person accounts of 'lived experience'. But first-person accounts are neither as personal nor as private, as one might assume. Rather, they are open and can be complemented and validated by what is intersubjective (Varela & Shear 1999, p.1). Further, third-person accounts, or so-called 'objective' positions, also form part of Kozel's analysis. My own methodology also adopts third-person accounts in the form of commentaries and critiques by theorists who were part of the research group called the Observatory. While remaining objective observers of my work, they were also

immersed as subjective observers in the media environment and positioned in extreme proximity to the performers: an experience which later allowed them to speak in the first-person because they had experienced first-hand the effect of sensory and perceptual destabilisation. They were thus both in the experience (they felt and experienced it) and also spectators, because they saw it happening.

In order to experience and test the production of theory and practical experimentation involved in the methodology presented within the framework of the thesis, these first and third-person accounts will be seen as evolving in an ecosystem of interaction and movement. Practice and theory were imbricated in the research process: experience and reflection revealed and influenced each other. This dynamic proposes a different academic approach for understanding the relationship of the performative body with technology. An analysis of how this methodology was approached and developed is included in Chapters 4 and 5.

This chapter focuses on elements and positions which, according to research for the thesis, can contribute to opening up the perceptual sphere of performers and spectators alike. Amongst other things, the two experiments created within the framework of the thesis experimented with and integrated some of Merleau-Ponty's more important areas of research. For example, echoing his theory of the invisible, one of my goals was to stimulate and develop awareness of certain aspects of performance that normally remain invisible, in order to bring them into the perceptual sphere of performers and spectators. One way of doing this was through the sense (or impression) of touch/ tactility produced through sound vibrations during the performance. Other elements resulted from investigating Merleau-Ponty's sensory chiasms. I also explored the complementarity of multiple forms of intelligence such as empathy, intuition, intersubjectivity and principles of the body's self-organisation.

## 1.2 An overview of the evolution of phenomenology

This thesis proposes to revisit the experiential by approaching aesthetics through the lenses of sensation and perception, and thereby question the relationship the perceiving body has to the world. In the experiments conducted, the body was the ground and basis for creative research. In particular, subject to tests with technology, with the latter being lived as a new environment, the body experienced the destabilising effect technology could have on it. These experiments sought to develop enhanced sensory and perceptual awareness in order to invest in a relationship between somatics and technology in a way that could potentially lead to a transformation of self, to others and with the world. A phenomenological approach was therefore adopted for these experiments.

Phenomenology is a philosophical movement that places individual existence, freedom and personal choice at the heart of its reflection. It constitutes a philosophical and existential approach to life, the world, the body and the senses that took root in European thought in the twentieth century. One of its major preoccupations is that of individual existence as determined by subjectivity. However, according to Kozel,

[f]rom the 1980s to the 1990s it became unfashionable to study phenomenology, almost politically suspect in the era of textual deconstruction and psychoanalysis, the time of the fragmentation of the body, identity and subject. The state of being in or out of fashion reflects a serious zeitgeist (2007, p.4).

As of the 1990s, phenomenology began to show signs of aging:

[...] seeming to offer less rigor, insight, and inspiration than other philosophical lenses for examining the world. Still, the core of phenomenology survived: that it calls for a return [...] to lived experience; that it takes as its starting point a position prior to, or beyond, the subject-object divide; that it shapes a reflective process that opens itself onto the richness of pre-reflective experience; [...] that it provides scope for the many dimensions of what we are as human beings to contribute to the expansion of knowledge. [...] Bodies, thought, imagination, memories, material conditions of life, and affect find a voice through phenomenology (Kozel 2007, p.5).

Adopting a philosophical approach is a way of understanding the world. We approach the world through our perceptions, we integrate our environment inside our

bodies. The revitalisation of phenomenology by certain dance artists such as Kozel (2007), East (2013), Lima (2013) or myself, or other artists who work with dancers such as Gromala (2007), contributes to a convergence of cultural, artistic and theoretical elements that can allow one to generate new embodiments of old or existing ideas.

### 1.3 A history of the body in phenomenology

The topic studied in this thesis concerns the body and specifically, an approach based on phenomenology. Without taking too much time to develop this point, but nevertheless to ground the analysis to follow, it is important to consider how a history of the body is inscribed in phenomenology. For Evelyne Buissière (2005), professor of Philosophy at the Academy of Grenoble, France, who reflects on the question of the body from an historical and philosophical perspective, phenomenology's project is to help us understand how the body moves through experience. For Michel Blay, editor of *Dictionnaire des concepts philosophiques* (2006), phenomenology aims 'to express reality through the relationships that let us approach it' (2006, p. 615).

In his book *Histoire du corps 3. Les mutations du regard. Le XX<sup>e</sup> siècle* (2006), Jean-Jacques Courtine<sup>6</sup> identifies the material body from the point of view of cultural anthropology as: '[...] the organic body of flesh and blood, the body as agent and instrument of social practices, the subjective body and finally, [...] the body as a material envelope of conscious forms and unconscious impulses'. According to Courtine, twentieth century theory re-invented the body in three major steps: firstly, through psychoanalysis, whereby Freud<sup>7</sup> (1856-1939), Austrian physician, neurologist and founder of psychoanalysis, claimed that the unconscious speaks through the body.

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<sup>6</sup> Jean-Jacques Courtine is a professor of cultural anthropology at the University of *Paris III- Sorbonne Nouvelle*. He taught for fifteen years in the United States, including at the University of California, Santa Barbara.

<sup>7</sup> Freud's main theories concern the unconscious, dreams and neurosis, repression, the *Oedipal* complex and castration anxiety.

Secondly, Husserl (1859-1938), Austrian philosopher, logician, mathematician and founder of phenomenology, introduced the idea of the body as an original "cradle" (Courtine 2006) and subject. This led, amongst other things, to the development of phenomenology and to Merleau-Ponty's<sup>8</sup> (1908-1961) theory of the body as the 'the world's pivot' (1945, p.97). A third interpretation of the body derived from the field of anthropology under the influence of Marcel Mauss<sup>9</sup> (1872-1950) whose research highlighted the importance and uniqueness of the body's techniques.

In the twentieth century, with Husserl, the phenomenology of the body gained a privileged place in the history of philosophy. Husserl's ideas considerably changed the image and importance of the body in Western philosophy as he broke with the positivist orientation of science and philosophy contesting scientific objectivity which mathematised the world<sup>10</sup>. Reacting to the corresponding lack of value for an understanding of the body, whose intelligence in part includes intuition<sup>11</sup>, he rather presented the body, for the first time, as a subject. Highlighting the idea that the world is given to us in its sensitive qualities such as colour, sound, noise, *et caetera* and believing that experience is the source of all knowledge, he introduced the idea of the body as flesh: the body as a primarily sensitive and feeling entity (Merleau-Ponty 1964b).

The path opened by Husserl was to be taken up in France by Merleau-Ponty. According to Buissière (2005), Merleau-Ponty (1945) sought to understand the meaning of what he called 'one's own body' or 'the body itself'<sup>12</sup> (*le corps propre*), thereby distinguishing 'my body' from 'other bodies' (*Körper*) as it is experienced in the flesh

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<sup>8</sup> Merleau-Ponty's position on perception is central to his work. For him, perception is an active dimension as a primordial opening onto the lived world.

<sup>9</sup> Marcel Mauss gives the example of British infantry who walked with a different gait than the French and who dug holes in different ways.

<sup>10</sup> Husserl expresses this point of view in *La Crise des Sciences Européennes* (Buissières 2005, p.66).

<sup>11</sup> An issue that will be developed at the end of this chapter.

<sup>12</sup> These two translations of the term '*le corps propre*' have been employed alternately by different translators. In this thesis, the term 'the body itself' will be privileged.



(*Leib*) and linked to the idea of animated life (*Leben*<sup>13</sup>). For Merleau-Ponty, 'my own body' is not an object in the world that one appropriates as one would a 'body-object'. It is not a body like others as it is 'my own body'. A 'body-object' that can be analysed and studied by science is 'the body I have' (*le corps que j'ai*) while 'one's own body' is both 'me and mine' (*moi et mien*) and the body that 'I am' (*je suis*) (Merleau-Ponty 1945). 'One's own body' is my body in the sense that it implies the intimacy of the body I live and experience 'from within'. The notion of the body 'from within' is further developed in Section 2.5 and in Chapter 5. If I have a body, it is necessarily a body that is both object and subject. I am amalgamated with it. It is therefore difficult to establish a difference between the 'body-object' and 'one's own body' as the body is characterised by its uniqueness.

According to Buissonnière (2005), Merleau-Ponty (1964a) also adopts a non-dualistic position by extending it within a phenomenological framework. It is in this context that he develops the question of 'one's own body' and intersubjectivity. By offering a phenomenology of 'one's own body', that is to say revealing its role, Merleau-Ponty argues that the body is not a simple object but rather presents itself as an ambiguous reality as it manifests both as a sensitive (*le sensible*) and feeling body, a subject and object. Here, let us take a moment to introduce the problematic of dualism which is fundamental to understanding Merleau-Ponty's positioning.

### **Dualism and the birth of the body**

Fragmentation and dichotomy present in Western thought developed, and can be seen in dualistic thinking that opposes object/subject (Brett 2004), object/process, form/behavior and body/mind. One consequence of this fragmentation is the

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<sup>13</sup> Buissonnière (2005) refers to the German word in order to highlight the origin of its meaning.

problematic relationship of the body and mind and their cleavage. According to Koestler ([1969] 1971), this theory dates back to Egyptian civilization and perhaps even earlier, but was clearly formulated and adopted in Western culture by René Descartes. For the Egyptians, human beings were considered as two parts, the body and spirit. The body was seen as an extended physical object in the material world and was in no way different in its essence to other objects in the world. The spirit, on the other hand, consisted of the ego, thoughts and emotions. This materialistic and dualistic vision of the body as an extension of a physical object in space, was later to influence a whole school of thought about relationships between the body and technology<sup>14</sup>.

According to several authors coming from a context of Western science (Smythies & Koestler [1969] 1971); the Orient (Ho 1993); and somatics (Caraker 2001; Davidson 2013; Espenassier & Mayen 2001; Fraleigh 1987; Ginsburg 2006; Hackney 1998; Kuypers 2006; Kozel 2007; Loureiro & Challet-Haas 2008), this reductive trend of the last hundred years conflicts with and contradicts a more naturalistic counter-movement that moved towards principles of interconnection and coherency of which the best examples are living organic forms or principles of the body's self-organisation according to Bartenieff and Laban.

In his work *La naissance du corps* (2010), Jacques Derrida proposes an analysis of the genesis of the opposition body/soul as understood by the Neoplatonists. He presents his critique from a philosophical and historical point of view, explaining that, according to Plotin, 'man must be a reason other than the soul [...] because man is an act, not an essence' (Derrida 2010, p.70). Derrida considers 'reason' not in terms of *logos*, but in terms of production: the soul that produces man as a living body (Derrida 2010). Here, the soul is both detached and liberated from the body and moves towards the body in order to be able to choose and animate it: 'The soul is thus pure, isolated and

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<sup>14</sup> This notion is analysed more fully in Chapter 2.

abstracted from the bodily organism of which it is the principle of life [...] (Derrida 2010, p.9). On the other hand, the soul gives rise to bodily life and the body: 'The soul is thus the movement from which the living body issues' (Derrida 2010, p.10). It comes to live in the body in order to animate it, but retains its position of 'superiority' over the body, for it is the soul that goes towards the body and not the opposite. The hierarchy of the soul with respect to the body is deeply rooted in Western ways of thinking about and understanding the body, and thus explains, in part, misunderstandings of the relationship between the body and technology.

Another theorist who views the body and the world as objects is Galileo Galilei (1564-1642), Italian mathematician, surveyor, physicist and astronomer of the seventeenth century. The origins of objectivism can thus be situated in his work. Mathematics was born from the activity of surveying, that is to say, from an intuition about nature, a reference to the perception of a subject and related to a practice. In surveying, an object is not detached from the perceiving subject. There is no separation between the objective and the subjective. What one sees, for example, a field, has sensitive qualities and is not simply constituted by quantifiable aspects. It forms a single thing. Geometry was to go beyond surveys 'by developing abstract forms and by establishing operating rules separate from the real that allow for indefinite progress within a closed system' (Buissonière 2005, p.257). Objects of the world were no longer 'available individually, incompletely and accidentally through experience but are understood through a rational, systematically unified method' (Krisis n.d., p.26, quoted by Buissonière 2005). Applying geometry to nature, Galileo Galilei transformed nature as a mathematical multiplicity:

In mathematising nature, one obtains an objective world, characterised by exactitude. An objective world is created of what was the space and time of life. Everything that appears in the world must be able to translate mathematically. [...] Science thinks it is creating truth independently. Through mathematisation, science freed itself from philosophy: it no longer looked for an ultimate *raison d'être* of things via infinite questioning, but translated the world as mathematical relationships. It thus makes an abstraction of a conscience that thinks the world and develops knowledge of the world. [...] But as such, science misses out on the very world

whose mysteries it desires to reveal [...] pure mathematics, it can only relate to the body and the material world in simple abstraction (Buissonière 2005, p. 257-258).

With this position, the sensitive and sentient body is lost. As Buissonière suggests, Galileo Galilei's vision of the body is rather mediated by a mathematical method, and considered as an object. As noted in Section 1.3 "The Pre-reflective", Husserl, on the contrary, raises the need to conceive a reference to the subjective. He proposes a pre-theoretical constitution for the definition and intellectual elaboration of meaning. Thus, it would not be until some three centuries later (1859-1938), with Husserl's vision of the body's sensitive qualities, that subjective experience would be revalued. Husserl's perspective would be further developed by Merleau-Ponty's theorisation (1945) of the possibility of an intuitive and subjective experience stemming from an embodied perspective of the world.

## **Subjectivity**

According to Merleau-Ponty (1945), subjectivity is an experience of the world that passes through the body and entails perception through one's sensitivity. It thus presents a plastic and malleable dimension; one that is not fixed as with objectivity. Further, one perceives others' sensitivity and other human beings, other consciousses. By subjectivity, the body becomes an 'explorer'. It is through subjectivity that I am able to understand my relationship with others, with the world. It is a state that precedes a definition and intellectual elaboration of sense (meaning). It is thus our relationship and consciousness of the world that suffer from so-called objective thinking or objectivism. In addition, phenomenologists argue that consciousness is embodied, that the body is part of this consciousness, and that this is why we are in the world. It is through the body that one responds to knowledge. It is through perception that one participates in the experience of the world: 'Perception is not purely an intellectual act, it brings into

play an attitude of the body in the world' (Buissonière 2005, p.260).

Perception is that through which we perceive the world and live a relationship with the world. It therefore has to do with the concept of 'the lived body' which I now introduce.

### **The lived body**

Phenomenology strives to answer questions raised by the experience of the lived body as 'the body's experience of the nature of the body and the nature of my being in the world' (Buissonière 2005). To have or to be a body is an experience we seek to grasp. My body is thus not an object like any other as science assumes:

My body is especially my being in the world: it is that through which perception is possible, that through which there is a world for me. It is from sensations that perceptions are elaborated. Sensations are sensitive inner states, they are references to external objects rendered through the coordination of the senses because all the senses belong to the same body. Perception is a synthesis that connects a variety of sensations to a single object. My body is truly that through which a world exists for me. Thus, it cannot be considered as an object in the world. It is somehow the transcendental condition of a world's presence for me. [...] But my body is always present with me, I cannot imagine its absence. It is with me and not in front of me as an object. When I touch it, I experience its sensitive properties, but the hand that touches is itself touched. Subject and object are continuously reversed in it (Buissonière 2005, p. 253-254).

I grasp the world through my body: through sensations. I experience my relationship and understanding of the world through perception. These ideas are developed further in Section 1.4 which examines how the notion of the lived body has developed in the field of dance.

### **Sensation**

According to Merleau-Ponty (1945), the body is discovered through sensation. Sensing is neither a material faculty or property, but rather a psychic fact through which deployment and propagation are essentially something other than extensions. That which is extended stems from the material thing, whereas feeling manifests as my body

(Merleau-Ponty 1945). According to Buissonière, 'Every sensation is accompanied by kinesthesia (internal bodily movements) that make me feel my body as my own body and not as an external physical object' (2005, p.266). This is also why Merleau-Ponty's research is so strongly opposed to dualistic thinking as argued by Descartes. For Merleau-Ponty (1945), the body is not an object like other objects, and one does not find oneself 'facing' one's body: 'Merleau-Ponty rejects both intellectualism that makes of the body an object that represents consciousness and materialism that makes of the body a passive receptacle of mechanical laws' (Buissonière 2005, pp.278-279). Merleau-Ponty's analysis of 'one's own body' shows that duality does not exist between the body and the soul because for him, humans are living totalities. They are therefore in the world. The body inhabits the world. It is at home in the world, it reflects it and transforms it:

The body is my immanence in the world, that through which the world is immanent to me and objects are given to me in an interiority-exteriority, a kind of objective interiority that allows the riddle of knowledge to be resolved. It is through perception that immediate immanence is created. And perceiving from the inside my own body, I capture the world's presence (Buissonière 2005).

## **Perception**

For Merleau-Ponty, perception occurs through the body. The body is also the 'natural self' and equivalent of what Husserl called 'the soul' (Husserl 2011). According to Buissonière (2005), philosophy, which had originally sought a principle of logic constituting an absolute, had to turn to 'the silent life of being's presence, towards the veritable "fundamental" that is not of a logical order, but of a sensitive one. Perception is that through which the world appears' (Buissonière 2005, p.272). It is the main act/action of the body and that through which I grasp the world. In writing *The Phenomenology of Perception* (1945), Merleau-Ponty analysed the structures and meaning of perception in an attempt to situate our relationship with being. Meaning thus

exists and derives from the sensitive, a topic Merleau-Ponty was to elaborate with respect to his theory of three sensory chiasms analysed in Section 1.7.

### **Merleau-Ponty's ontological questioning**

Merleau-Ponty invests in an ontological questioning (Merleau-Ponty 1964a) in which the body holds a central place, and where the body constitutes an opening to the world. If, for Merleau-Ponty, as well as for Husserl, the body is central, for Husserl, the soul is the nexis of the body and the world: the body itself is both psychic and material. As for Merleau-Ponty, 'he want(ed) to elaborate on immediate reflexivity in which the body itself is given to me as such and elaborated with its corporeality' (Buissonière 2005, p. 272).

This shows that the question of an ontological shift of the body has its roots in the research of Merleau-Ponty. I return to this issue later when the dynamic of an ontological shift is considered with respect to the performative body affected by technology.

### **Corporeality and corporeality**

Corporeality is a key concept of this thesis. Following Husserl's idea of corporeality as revealed in the experience of touching and being touched, and as Buissonière notes, 'Merleau-Ponty was to search for the corporeality of 'one's own body' as the background of all experience and to consider the body and world as perfectly reciprocable' (Buissonière 2005, p. 272). For Merleau-Ponty, the body is therefore not a thing, but a network of relations, open to the world and to others. The concept of 'one's own body' was developed by Merleau-Ponty in order to oppose it with the body-object

that is opposite to consciousness (Merleau-Ponty 1945). 'One's own body' consists of two layers: the first of which is the materiality that characterises all physical things, its corporality, and the second, is the sensitive body: 'My body has all the attributes of materiality but it is also that which I sense. I cannot sense an object without sensing myself at the same time. I cannot perceive the heat of an object without perceiving the heat of my hand as it touches it' (Buissonière 2005, pp.265-266).

In the field of dance, two key concepts of corporality and corporeality were taken up and developed by Michel Bernard in *De la création chorégraphique* (2001). A philosopher, Michel Bernard is Professor Emeritus in the Aesthetics of Theatre and Choreography at *Université Paris 8*. Along with Hubert Godard, Bernard co-founded the Dance Department of the university in 1989. According to Bernard (2001), corporality is the quality of what is corporal<sup>15</sup>: it relates to the physical body in its materiality. As for the concept of corporeality, Bernard (2001, p.21) explains it in the following way:

Thus, despite or beyond differences in approach, contemporary philosophers and aesthetic theorists agree to radically subvert the traditional category of 'body' and propose an original plural, dynamic and random vision as an unstable chiasmic game of intensive heterogeneous forces or vectors. A vision that is now appropriate to designate by a term with more plastic and spectral connotations: 'corporeality'.

For her part, Julie Perrin, Senior Lecturer in the Dance Department of *Université Paris 8* with a doctorate in Aesthetics and Choreographic Studies, defines corporeality in the following terms:

It is the entire problematic of classical ontology concerning the body as 'being full' that needs to be reviewed. The body is no longer considered a closed and intimate reality, referencing an essence; neither can it be reduced to its biological reality. Corporeality can be thought of as an opening, as a crossroads of influences and relations; it is the reflection of our culture, our imagination, our practices and social and political organisation. The term 'corporeality' (*corporéité*), with a more plastic connotation, translates as a changing, mobile, unstable reality made of networks of intensities and forces. Referencing the thinking of artists (Cezanne,

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<sup>15</sup> Viewed 8 June 2010, online: Bossuet, in <http://littrereverso.net/dictionnaire-francais/definition/corporalit%C3%A9/16590>.

That is related to the real body. Corporeality (*corporéité*). From the Medieval Latin *corporeitas*. For the phenomenologists, it relates to man's being in the world, to be viewed by others as a person, a human being. Viewed 8 June 2010, online: <http://www.larousse.fr/dictionnaires/francais/corpor%C3%A9it%C3%A9>.



Artaud, Kandinsky, Bacon, Cage) and thinkers (Mauss, Merleau-Ponty, Ehrenzweig, Deleuze and Guattari), Michel Bernard (2001) elaborated a concept based on the analysis of the framework underpinning sensoriality (2006, p.101-102).

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Figure 2: Carol Brown, *Revolve*, 2011

Figure 3: Susan Kozel, *The Whisper[s] project*, 2007

More recent artists have also incorporated this concept in their research and creative work. In the field of dance and technology, examples include Carol Brown (Brown, Niemetz, Medlin, Scoones 2013) with her work *Revolve*<sup>16</sup> (2011), Malaika Sarco-Thomas's *Twig Dances* (2010), as well as Susan Kozel's *The Whisper[s] project*<sup>17</sup> (2007); or French choreographers Kitsous Dubois<sup>18</sup>, who has worked with weightlessness since 1990 and Jean-Marc Matos with *Escapes Tactiles*<sup>19</sup> (2011). The concept of corporeality is central to the study of the carnal body, a concept that is introduced below and discussed in detail in Sections 1.3, 1.5 and 1.8.2, and later in Chapter 5.

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<sup>16</sup> Viewed 17 November 2014, online: <http://www.creative.auckland.ac.nz/en/about/events/events-2012-1/2012/08/10/Staff-and-Guests-DR-CAROL-BROWN.html>

<sup>17</sup> Viewed 17 November 2014, online: <http://v2.nl/archive/people/susan-kozel>

<sup>18</sup> Viewed 17 November 2014, online: [http://www.artscatalyst.org/projects/detail/gravity\\_zero\\_dubois\\_copy/](http://www.artscatalyst.org/projects/detail/gravity_zero_dubois_copy/)

<sup>19</sup> Viewed 7 July 2014, online: <http://www.k-danse.net/escapes-tactiles-2>

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Figure 4: Kitsou Dubois, *Trajectoire Fluide*, 1999

Figure 5: Jean-Marc Matos, *Escapes tactiles*, 2011

### **The principle of reversibility**

Merleau-Ponty's example of two hands touching demonstrates a form of reflexivity in which I experience the sensitivity of my body. As I touch an object, I also feel my body touching. I have a double experience which also demonstrates a principle of reversibility: firstly, because I discover an object with my body, and secondly, because I discover my body in discovering the object. With the example Merleau-Ponty (1945) gives of two hands touching each other, he lays the foundation for his concept of the fleshly or carnal body.

### **The Flesh**

Merleau-Ponty advances the idea that the moment my hand is touched, it becomes flesh because it manifests sensitivity. At the same time, the touching hand is touched: 'There is an echo of the external object in my body, a doubling of what is sensitive and this is what shows (*fait*) that my body is not pure materiality. It is a carnal body that has the double aspect of material object and inner experience. My body is flesh' (Buissonière 2005, pp.266-267). For Merleau-Ponty (1945), touch is essential, for touch is what allows us to understand the body directly: 'Only touch allows for the

double experience of my body as object and subject, as a thing and as something that feels. [...] The constitution of 'one's own body' takes place on a tactile level' (Buisnière, 2005, p.267). As such, Merleau-Ponty negates the opposition subject/object since his concept of flesh involves both a subject and object. It is thus sensation that introduces the concept of alterity. In the experience I have of the Other's body, I have a similar experience with my own body: 'In understanding that my body is a sensing thing, I put myself in the position of understanding that it is the same for the Other's body because in this experience, my body is open to the world. [...] It takes place through immediate apprehension, assimilation' (Buisnière 2005, P.270). It is through my body that an opening to the world exists, that I understand my relationship with the Other's body and that there is in a fact a world. The world is thus the place where corporeality and alterity are bound together.

### **Intercorporeality and the principle of coexistence**

According to Merleau-Ponty's research, the body is not a scientific object, but rather translates as a capacity for meaning and expression. He bases his thinking on the vital links that are woven between myself and others, the soul and the body, the body and the world, man and Being, in order to go beyond duality. For Merleau-Ponty, these links are forged in the 'flesh of the world' (Briginshaw 2003), whether they be in my relationship with things or in my relationships with others. There is a kind of circularity between my flesh and the flesh of the world, an embrace, a coexistence of the two. The world is not only mine, but it immediately confronts me with others. We find others in the world. As Merleau-Ponty explains, 'The flesh is the common matrix, the training ground of object and subject. [...] Flesh connects man to all other men and to the world' (1945, cited in Buisnière 2005, p.287). This common world is the place where

relationships are interlaced with others. For Merleau-Ponty, a circularity exists between 'one's own body' and the body of the Other that ensures these two bodies form a unicity. It is thus 'one's own body' which is responsible for the field of my bodily existence being intertwined with that of the Other in a common world. The existence of the Other's physical being is not a problem for me, because as a physical being, and as soon as I am in the world, I am with the Other. The complementarity of my body and that of the Other reflects the fact that these two bodies form a circular entity together.

This idea leads Merleau-Ponty (1964a) to the question of ontology. Developing 'one's body itself' as a relationship in which I and the Other are always connected, we participate in the same source, the same ontological flesh, and it is here that the notion of intercorporeality comes into form in the sense of bodies communicating with other bodies. For Merleau-Ponty, being is being in a common world where relationships are developed and intertwine. Relationships with others make us aware of 'one's own body' as they are implemented by an intercorporeality that is precisely created through this intertwining, this common flesh that is myself and the Other. In this sense, Merleau-Ponty's approach can be considered a philosophy of relations: between the body and soul, between the body and the Other, the body and the world. In its presence to the world, the body has a carnal relationship of complicity with the world, 'a kind of dialogue with the body' (Merleau-Ponty 1945). In my opinion, Merleau-Ponty's research brings an understanding of the Other through intercorporeality rather than intersubjectivity, as for Merleau-Ponty (1945), it is through my body that I understand the Other, or what he calls the pre-reflective, and this state precedes a definition and intellectual elaboration of meaning. It is thus a phenomenology of 'one's own body' and intercorporeality that Merleau-Ponty proposes.

## **The Pre-reflective**

Following Husserl, Merleau-Ponty stresses the need to conceive of a 'pre-theoretical constitution' (Buissonière 2005). This idea is based on my body's presence to the world. The body experiences the world and 'my body also gets its power, its "I can" because it has a place from which it views the world. It is a thing in which I reside' (Buissonière 2005, p.268). It is in his example of the hand that touches and is touched that Merleau-Ponty anchors this notion because in touching, my body is also touched. It experiences the world through sensation and consciousness. As Buissonière notes, through this experience, 'my body operates a kind of reflection. [...] The perceived thing is grasped in person, in the flesh' (Buissonière 2005 p.268-269). It is therefore not an understanding and relationship to the world that passes through language, but rather one that occurs through the body:

All knowledge, all objective thought lives through this initial moment of sensation, that I have with a colour, or whatever sensitivity involved, a singular existence that catches my eye and promises a series of undefined experiences, a concretion of possibilities that are already real in the hidden aspects of the thing (Buissonière 2005, p.269).

According to Kozel, the notion of the pre-reflective is central to an understanding of the relationships established in the experience of bodily involvement in technological environments:

Setting aside the either/or of rationality or irrationality, Merleau-Ponty posits a chiasmic dynamic to thought and uses a spatial and gestural understanding of embodied perception circling across itself and its objects so that separating them makes no sense. [...] This notion of a pre-reflective experience located both outside and inside oneself, like a topographical weave, is a crucial starting point for any phenomenological process: this starting point involves a willingness to receive something that may seem adverse to existing conceptual structures and an acceptance that we do not quite know where it is or what it will look like. [...] The complexity of the construct of the pre-reflective is further enhanced when it is questioned from the perspective of the body, or as Rajchman (2001) says, the "being of sensation" (2007, p.20-21).

As a consequence, Kozel remarks that, 'The pre-reflective does not negate reflection but indicates a dynamic ontological state of entwinement or entanglement between the two. It is not a steady state; it appears and vanishes, in a constant sliding exchange with

reflection' (Kozel 2007, p.19). In conclusion, she notes that the role of the pre-reflective is that, 'it can open a way for understanding the deep entanglement between reflection and experience, between thinking and making, which is so important to many arts and sciences' (Kozel 2007, p.23).

#### **1.4 An overview of the application of phenomenology in the field of dance**

According to Sondra Horton Fraleigh, who makes her analysis from the point of view of a dancer-choreographer working in somatic practices and *Butoh*<sup>20</sup>:

[...] dance is in essence an embodied art, the body is the lived (experiential) ground of the dance aesthetic. Both dancer and audience experience dance through its lived attributes – its kinaesthetic and existential character. Dance is the art that intentionally isolates and reveals the aesthetic qualities of the human body-of-action and its vital life (Fraleigh 1987, p.xiii).

For Fraleigh, dance is the ultimate existential art. She defends this position through a central concept, namely, that of 'the lived body', which she relates to existential phenomenology (Fraleigh 1987). Curiously, dance has rarely been examined in connection to the question of phenomenology. Fraleigh therefore began to address the issue and notes:

[...] existential phenomenologists place great emphasis on the problem of the human body in philosophy and [...] the holistic, or nondualistic, concept of the lived body [...] developed out of these concerns. But even phenomenologists writing on the problem of embodiment did not deal with dance, although it seems a natural connection to make (1987, p. xxx).

It would not be until 1968 and the release of Maxime Sheets-Johnstone's *The Phenomenology of Dance* that a general discussion on the subject was initiated. However, it was also not until 1981 that Sheets-Johnstone began specifically focusing

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<sup>20</sup> In her book *Dance and the Lived Body*.

on the issue of the body in dance - and more particularly, on embodiment as related to phenomenology.

This said, it is interesting to note that dance, with its foundations in the body, Nietzsche can be said to have inspired the beginnings of modern dance. Through his Dionysian passion 'about being body, doing, risking, and creating [...] Nietzsche expresses the wholistic embodied truth of dance directly' (Fraleigh 1987, p.xxx). As Fraleigh further notes,

His ideas influenced early modern dance through Isadora Duncan, who was inspired by this writings, and postmodern dance through Kenneth King, who based a word on Nietzsche's philosophy. [...] While Nietzsche's work, which provides the early foundation of existentialism, is thus also directly linked with the origins of modern dance, it cannot be claimed that Sartre, [...] was so directly influential. [...] Modern dance has grown and changed through an age colored with not one but several Existentialisms. (Fraleigh 1987, p.xxxi).

Fraleigh (1987) also notes a dynamic convergence in the twentieth century between modern dance (she also includes American postmodern dance in this category) and existentialist literature, which was to create the existential context of modern dance. Phenomenological existentialism draws attention to the importance of 'things in themselves'; that is to say, to an understanding of phenomena and their manifestations at a most fundamental level. Fraleigh also signals another existential principle: that of existence preceding essence. This principle highlights the idea that as human beings, we are without a pre-determined essence or, as Sartre once said, we are condemned to be free (Fraleigh 1987). Modern dance was thus to link itself in a very intimate way with the principle of 'discovery', and also to what Fraleigh notes as 'this open (or free) aspect of method' (Fraleigh 1987 p.xxxiii):

All forms of modern dance emphasize discovery modalities – finding (or creating) value in dance through a questioning attitude and way of working, rather than assuming without question the already established models. Originality and inventiveness are at the heart of every period of modern dance; hence the invention of ever new ways of moving, of valuing dance, and of accounting for change. [...] For the modern dancer, the creative act involves origination of movement – a root invention of movement [...] (Fraleigh 1987, p.xxxiii).

It was moreover this principle which strongly influenced me in my early career encounter with American postmodern choreographer Deborah Hay. Freedom and individuality mark the most existentialist components, or context, of modern dance. Fraleigh establishes an interesting parallel between this philosophical tradition and the "dance for dance's sake" approach or pure dance aesthetic seen in the works of Merce Cunningham, Georges Balanchine, Viola Barber and others, which 'emphasize(s) the human body-of-motion as the inmost phenomenal essence of dance' (Fraleigh 1987, p. xxi). According to Fraleigh, it was nevertheless German dancer-choreographer Mary Wigman (1886-1973) who had placed the existentialist question Who am I? at the heart of dance. Further, the German school, of which Wigman was one of the main exponents, placed emphasis on the notion of 'becoming':

[t]hroughout the German school, dance was a means toward self-knowledge – not a disclosure of personality but a construction of it, not self-expression as self-indulgence but a creation of self in expressive action that moves one beyond the confines of self. I began to grasp the idea of "becoming" through dancing, which was later reinforced by my study of existential humanism and its view that human beings create who they are through their actions and choices (Fraleigh 1987, p.xxii).

Later, under the influence of French philosopher Jean-Paul Sartre and his essay *L'existentialisme est un humanisme* (1970), the existential principle highlighted individuality. The idea of 'becoming' was supported by the concept of 'nothingness' as existentialism's point of departure. Sartre's concept seeks to erase the world; he seeks a point where things can start again. According to Fraleigh, existentialism also marked 'a beginning point for modern art and dance' (1987, p.xxix). In *The Courage to Be* (1952), Paul Tillich sheds light on this point: "The existential attitude is one of involvement in contrast to a merely theoretical or detached attitude. "Existential" in this case can be defined as participating in a situation... with the whole of one's existence' (Tillich 1952, cited in Fraleigh 1987). In *Art and Existentialism*, Arturo Fallico notes that 'existentialism was born out of man's "ontological insecurity", a "disturbance", a deep



"self-consciousness" (1962, cited in Fraleigh 1987). For Fraleigh, the philosophical positioning of existentialism in dance is a philosophy of becoming (Fraleigh 1987).

#### **1.4.1 The lived body in dance**

According to Fraleigh, the concept of the lived body has its roots in the writings of Nietzsche, Husserl and Henri Bergson. It evolved from the encounter of existentialism with phenomenology (Sartre, Husserl, Merleau-Ponty) 'through their concerns for explaining "bodily being" and their attendant attempts to elucidate "perception" (Fraleigh 1987). The concept was also born of a desire to break with dualistic thinking:

Dualism, which connotes the classic body-soul separation in Western philosophy (principally known as Cartesian dualism), views the body in a negative, mechanistic way and regards the soul as superior. On the other hand, the lived body as a concept is a positive view, because the philosophers who developed the concept view the body as meaningful (Merleau-Ponty, [...]-and to some extent, Sartre) and innately purposeful (Ricoeur, Hans Jonas and others). For this reason, and because it was formulated in the joining of phenomenology and existentialism, I associate the lived-body concept with what Colin Wilson identifies as the new (and positive) existentialism (Fraleigh 1987, p.4).

The concept of the lived body provides a foundation for countering the influence of dualistic thinking that has permeated the world of dance, particularly in the form of an instrumentalisation of the body<sup>21</sup> or the idea that the mind, or soul, is what drives and essentially motivates dance. An example is classical ballet which developed under the influence of doctrines such as Plato's theories which, 'posit(s) permanent forms (ideas) beyond, and superior to, sense knowledge' (Fraleigh 1987, p.10).

Theories of 'the lived-body' lead away from dualistic concepts that have infiltrated the field of dance:

Lived-body concepts hold that the body is lived as a body-of-action. Human movement is the actualization, the realization of embodiment. Movement cannot be considered as medium apart from understanding that movement IS body, not just something that the body accomplishes

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<sup>21</sup> A concept that is developed in Section 2.3.

instrumentally as it is moved by some distinct, inner, and separable agency. Embodiment is not passive; it is articulate. In other words, I live my body as a body-of-motion, just as I also live my self in motion (Fraleigh 1987, p.13, original emphasis).

It is interesting to note how Sondra Horton Fraleigh anchors her concept of the lived body and embodiment in the material physical body. In experiments involving embodiment in a technological environment conducted for this thesis, a development of this theory and an ontological shift occurred that led to an understanding of the body from the perspective of corporeality. In technological environments, a changing, dilated reality, made up of networks of intensities and forces is experienced in which the body becomes more complex through the activation of its corporeal and mediated potentialities.

## **1.5 A phenomenological view of dance and technology**

### **1.5.1 The performative attitude as a principle of risk-taking**

To initiate a reflection on the existential context of dance in relation to technology, it is also necessary to introduce the concept of a performative attitude, which is one of the main dynamics explored in the context of my research, as well as for other artists working in the field.

A first distinction can be made between the notions of performance and performative attitude. Within the space of this thesis, it is not possible to develop the term 'performance' from an historical, sociological or other point of view. As employed in this thesis, it rather designates the action of the artist in the context of the performing arts. The notion of a *performative attitude* seems more appropriate for evoking the personal risk factors involved in the elaboration of strategies for my practical research.

'A fundamental element of [artistic proposals called] 'performance art' is the willingness of artists to break with traditional conventions of art and to examine the relation with aesthetic codes' (Roux 2007, p.22). In her book *Danse(s) performative(s)* (2007), art historian Céline Roux proposes to think of performance art not so much as a genre defined in a formal way, but rather as an attitude (Roux 2007). This is because it constantly renews itself and is circumscribed within a framework that it seeks to overcome. According to Roux, the aesthetic origins of performance art in particular for example, in the physicality of *action painting* or Viennese Actionism, describe an existential attitude: '[...] a position of the artist whom, at certain moment in his life, submerges his/her artistic practice to reach his/her own existence' (2007, p.16). Performance art as an engaged artistic attitude, is 'not limited to a genre, but can be in dialogue with the whole psychic field' (Roux 2007, p.16), including here, dance and the digital arts. Regardless of the socio-political context concerned or the place or period of his/her action, the artist-performer adopts an 'outsider's' (*décastrée*) attitude of the person who questions and critiques the reality in which he/she evolves (Roux 2007, p.17). With this stance, (philosophical, aesthetic or otherwise), the performer is no longer simply in the action of representation, but rather engages fully in an act of risk involving his/her corporeality. It is his/her own sensations, and not those of a character, which are called into play. Beyond a question of character or a particular performer's persona, the performative attitude stages the individual who exhibits, organises and executes actions affecting his/her own body (Roux 2007, p.17).

The performative attitude is thus a performative principle that can lead to a state of transformation, a position defended in this thesis.

## Towards an approach of transformation versus representation

According to Roux, the performative attitude would seem to be the opposite of representation (Roux 2007, p.30). This perception is consistent with the position adopted by Enrico Pitozzi (2009b)<sup>22</sup>, professor at the University of Bologna who studies new contemporary performative stages. Understanding live performance as presenting a dual world of stage and environment, he describes it as being an inter-subjective field of consciousnesses that reveals the experience of the performer as lived in interaction with others<sup>23</sup>. For Hans-Thies Lehmann, renowned German theatre scholar working at the University of Kent and author of *Postdramatic Theater* (2006), the action of the performer, here called his/her 'performance', is not so much a representation and/or transformation of a reality outside him/herself, but rather constitutes an effort of self-transformation<sup>24</sup> (2006, p.137). Artists influenced by postdramatic theatre such as the *Wooster Group*<sup>25</sup> (New York), Japanese dancer-choreographer Saburo Teshigawara<sup>26</sup> or Belgian choreographer Jan Fabre<sup>27</sup>, all adopt these strategies.

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Figure 6: Wooster Group, *Hamlet*, 2007

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Figure 7: Jan Fabre, *Inferno*, 2013

For these artists, the performative attitude constitutes a potential place for reappropriating corporeality. The performer becomes an agent of the lived experience of

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<sup>22</sup> Enrico Pitozzi's theories are presented in greater detail in Section 2.8.

<sup>23</sup> These theories are presented in greater detail in Section 2.8 and in Chapter 5.

<sup>24</sup> The concept of self-transformation does not focus on the drama *per se*, but rather evolves as a performative aesthetic in which the text of the drama is put in a special relation with the material situation of the performance and the stage. Thus, postdramatic theatre strives to produce an effect for spectators rather than remaining true to the text. Viewed 4 October 2014, online: [http://samples.sainsburysebooks.co.uk/9781134496839\\_sample\\_498751.pdf](http://samples.sainsburysebooks.co.uk/9781134496839_sample_498751.pdf)

<sup>25</sup> Viewed 17 November 2014, online: <http://artactmagazine.ro/hamlet-wooster-group-one-step-into-future-theatre.html>

<sup>26</sup> See Section 3.2.1 on my influences.

<sup>27</sup> Viewed 17 November 2014, online: <http://inferno-magazine.com/tag/jan-fabre/>

performance and the potential of his/her own transformation. The work of artists adopting the performative attitude as suggested by Roux 'is no longer expressed as a spectacle offered, but proposes a situation of the body, a combinatorial proposition of possibilities' (Roux 2007, p.97). The performer 'exposes him/herself not [only] with a will to be contemplated, but in a need for the openness and understanding of the world in which he/she belongs' (Roux 2007, p.119).

Throughout the twentieth century, the field of dance began to accept a wider experimentation of corporal possibilities. According to Isabelle Rieusset-Lemarié, Maître de Conférences in Information and Communication studies at the *Institut Universitaire de Formation des Maîtres*, Versailles, who approaches the question from the perspective of aesthetic theory and cultural mediation, 'this 'meeting place' – that of dance and the digital arts – crosses the 'spectre of contamination agitated by the fears of each art form of losing its identity' (2006, p.87). Thus, dance and digital arts are now exploring other aesthetics based in part on the perception of the invisible: 'In dance, the body is not only solid, material, immediate. It also has holes, is split, is traversed by tensions, mediations, interactions. Through choreography, it is also able to make [...] the immaterial perceptible (2006, p.89). According to dancer Saburo Teshigawara, it makes one's own limits permeable to those of others (Vincenot 2000). Mary Wigman speaks of her 'invisible partner' when referring to the sensations and memory of multiple presences that are related in her performative act (Vincenot 2000). The intersection of dance and new technologies allows for further exploration of potential bodily schemas.

With this hybridisation, coupled with a redefinition of aesthetic codes of movement, the performative attitude of dance artists working with technology, 'approaches a status as a tester, a researcher, in the laboratory of bodily experience' (Roux 2007, p.121). The performing corporeality of dance involving technology is no longer intended as virtuoso or mystical, but is rather 'matter to be rediscovered in a

conscious thinking about being' (Roux 2007, p.192). The active process and effects of the performer's interaction with digital technologies does not act between bodies, but rather *with* bodies, *on* the body, *to* the body. Through its transductive capacity, the medium of the flesh is more than a material support. Digital technologies introduced by artists in the performative space of potential self-transformation in their work with technology, allow for a redefinition of the nature of the body, its contours and limits (Michel, Ginot & Godard 1995; Godard 1995; Bernard 2001).

As examples one can cite the works of French choreographer Jean-Marc Matos or of Portuguese choreographer Rui Horta who were present at the Danse au futur festival held at Aix-en-Provence in 2002. Both choreographers incorporate images in their work with an idea of increasing the material perception of dancers' bodies, for example, the grain of their skin, by creating a kind of 'close-up' that complements more traditional forms of discourse surrounding the body's presence and corporeality. These types of findings are also reflected in more recent research by theorists and choreographers investing in somatics and technology in an attempt to redefine the nature of the body and its limits. These include Cecilia de Lima, dancer, choreographer and researcher affiliated with the *Instituto de Etnomusicologia - Centro de Estudos em Música e Dança* in Lisbon; Malaika Sarco-Thomas, artist and lecturer at the University of Falmouth; or Ali East, artist and professor at Otago University, New Zealand. For example, De Lima explores an intensification of proprioceptive awareness, which for her, is fundamental to an embodied way of relating to and making sense of the world (2013, p.18). She works with embodied knowledge in her explorations with technology to open an alternative, experimental understanding of reality. As she notes, her approach develops awareness through a process of transformation of a somatic nature. Her place of experimentation is her own body and she puts herself at risk to experiment with a

different way of thinking linked to the power of transforming the moving body. It is an approach that aims to develop and use a practice of proprioceptive awareness.

In conclusion, the findings of Michel Bernard, as well as those of Marcelle Michel and Isabelle Ginot, authors of *La Danse au XXe siècle* (1995), can be cited as concurring with the position defended in this thesis regarding a necessary ontological shift of the body in the context of the performing arts integrating technology. The development of a new performative attitude should also be seen as promoting a principle of risk-taking. This principle is at the heart of this thesis' argument as well as underpinning my strategies for practice as research. Lastly, it can be seen to be linked to definitions of self-organisation given by Laban<sup>28</sup> (2007) and Bernard (2001) that are presented at the end of this chapter in Section 1.8.3.

## **1.6 Other contemporary approaches to phenomenology**

Existentialist phenomenology influenced many disciplines in the humanities. The influence of Merleau-Ponty's theories is capital, particularly, his approach and understanding of the body. In the framework of this thesis, it is not possible to discuss the influence of his theories on each discipline. Rather, the following section is oriented towards an interpretation of his work that can lead to other ways of understanding and experiencing the body.

In his book *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine* (1999), Shigehisa Kuriyama makes an analysis from the perspective of the humanities which highlights aspects of the body in diverse medical traditions. According to Kuriyama, a European conception of the body had originally derived from dualistic and reductive views of the Hellenists and was notably influenced by autopsies

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<sup>28</sup> *The Mastery of Movement on Stage* was written in 1950 by Rudolf von Laban and published by MacDonald and Evans, London. The French translation which I refer to was published in 2007 by Actes Sud with a translation by Jacqueline Challet-Haas and Marion Bastien

conducted on bodies. Doctors understand the body as an inert and mechanistic entity. This perception of the body<sup>29</sup> connected to immobility merits analysis. Up until recently, the typical way of studying the living was to kill and/or isolate living organisms or separate them in parts. It meant that nothing remained of the total organism to be studied, and concepts such as coherency or principles of self-organisation, for example, were difficult to conceive of for biologists and neuroscientists (Ho 1993; Ginsburg 2006). The problem of materialism and reductionism, which will be developed in Sections 2.1 and 2.2, underpins these methods. It was also one of the causes of delay in studying the body from the point of view of integrating principles of interconnection, of which somatic practices are examples. On this topic, this thesis shares Gromala's point of view in her thesis *Towards a Phenomenological Theory of the Visceral in the Interactive Arts* (2007), which provides an artist's perspective of interactive art that focuses on visceral dimensions of the body/mind. Gromala's conclusions point to the fact that, '[t]hese distinct world views are not simply ideas, but are enacted on the level of the everyday and influence how one experiences one's body' (2007, p.39).

Around the same time as the development of Greek medicine, the Chinese developed the notion of "chi", which can be defined as an active energy force that pervades the body and the world. According to Kuriyama:

[w]e can read Confucius's warnings anachronistically as a sort of crude psychophysiology, as primitive insights into the terrifying influence of hormones – if we bear in mind that blood and *Qi* were known otherwise than by chemical analysis, that the heart of their reality lay in personal experience. [...] It was the intimate everyday familiarity of such sensations that made the traditional discourse of vital flux so compelling. The deepest certainties about *Qi* were rooted in knowledge that people had of the body because they were, themselves, bodies (Kuriyama 1999, p.103).

The notion of flow Kuriyama introduces is also important. It supports a theory developed by Christine Buci-Glucksmann on a contemporary culture of flux<sup>30</sup> which underscores the aesthetic paradigm defended in this thesis. Glucksmann's theory of flux

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<sup>29</sup> Introduced in 1.3 in the section on dualism and the birth of the body.

<sup>30</sup> Presented in Section 2.8.1.



highlights fluidity or flow as challenging old boundaries between the body and mind. Through her interpretation of a contemporary culture of flux, particularly with respect to the effect of technology in society today, I establish an important link with the concept of corporeality that is central to this thesis.

In the field of dance and technology, alternative approaches to the body have emerged. Susan Kozel, who began working with technology in the early 1990s, was confronted with the same preconceived ideas about the body as those I had encountered in my early career around the same time. Here is her account of the conceptions of body that were circulating at the time:

I plunged also into a set of pretty rigidly defined notions around the body and what computers could offer to society, notions that had value judgements embedded in them: that it was desirable to leave the meat behind (Gibson 1984); that an uploading of consciousness and the amazing worlds through which one could travel in virtual space awaited us with a few more years of technological advancement (Moran 1988); and, of course, that the body was obsolete (Stelarc 1984, 1995). The assertion that the body was "seduced and abandoned" was the ironic, but all-too-literal vision of the future at that time (Kozel 2007, p.64).

According to Emmanuel Alloa, a postdoctoral researcher at the National Centre of Competence in Research - *Eikones – Iconic Criticism*, University of Basel, post-phenomenological thought emerging in the early 1960s, has a 'topos of "eclipse", "erasure" and lastly, "death of mankind" ' (2010, p.80). Another definition of post-phenomenology is proposed by Sarco-Thomas (2013) who refers to Don Ihde's definition of post-phenomenology as a contemporary approach to phenomenology which 'recognizes and questions the technological mechanisms that influence and condition our experience of the world' (Ihde 1993, cited in Sarco-Thomas 2013, p.82). Posthuman theorists, such as philosopher Katherine Hayles in her book *How We Became Posthuman* (1999), regard bodies as accessories or external objects and predict a future populated with increasingly brainy machines. Hayles argues that posthumanism does away with notion of a 'natural' self and that human intelligence can be conceptualised as being co-produced with intelligent machines. According to Hayles,

the posthuman view privileges information over materiality. It considers consciousness as an epiphenomenon and imagines the body as a prosthesis for the mind.

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Figure 8: Donna Haraway, *A Cyborg Manifesto*, 2000.

Donna Haraway is another posthuman theorist whom, in her book *A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century*<sup>31</sup> (2000), adopts the metaphor of the cyborg to deconstruct the binary relationship between nature and culture. Through this metaphor, she demonstrates that things that seem natural, like the human body, are not in fact. Rather, they are built on our ideas about them. Haraway's theories are developed from a feminist perspective. This position is useful to fight against a dominant discourse which, to some extent, reduces women as bodies. For Haraway, we are all cyborgs, 'making affinities through our inhabitation of objects and technology beyond our physical self' (Sarco-Thomas 2013, p.87).

It is interesting to note that, in 1995, while presenting my first work *Communion* at *ISEA 95 – International Symposium on Electronic Arts*, Montreal, whose theme was

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<sup>31</sup> Viewed 17 November 2014, online: <http://www.sentientdevelopments.com/2010/10/25-years-later-donna-haraways-cyborg.html>

that of 'Emerging Senses'<sup>32</sup>, French critic Annick Bureau, in *Leonardo Digital Reviews*, compared my work to that of Stelarc, noting our different philosophical and conceptual orientations:

[...] this piece [*Osmose* by Char Davies] achieves the fusion of a technology, a content and an aesthetic proposition. It by-passes and enhances the technology, it is a work of our time about our world, human and technology together.

These remarks can also apply to "Communion" by Isabelle Choinière. "Communion" is a multimedia ballet, where the body of the dancer triggers the images and the sounds to some extent. With a very minimal aesthetics (no big machinery seen on stage), Isabelle Choinière deals with the actual and the virtual body in an electronic life ritual. Choinière raises in a 30-minute performance the issues of the limits of the skin, of the self, of the internal and external. If Stelarc connects the body to the machine – organic and silicon parts trapped into cables, putting the internal body to the outside – Choinière frees the cyborg and proposes an expanded and extended body, hollow and dense, a feminine principle to the new world (Bureau 1995, p.80).

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Figure 8: Yacov Sharir, *Automatic Body*, n.d.

Figure 9: Jaime Del Val, *Microsexes*, 2007

Postphenomenology marked the collective imagination of a generation of artists in the world of dance and technology such as Klaus Obermaier<sup>33</sup>, Palindrome<sup>34</sup>, Yacov Sharir<sup>35</sup>, Jaime del Val<sup>36</sup> and Johannes Birringer<sup>37</sup>. It must be emphasised that a postphenomenological view is not one defended in this thesis. As a dance practitioner, I rather felt the need to revisit Merleau-Ponty's phenomenology and, amongst other things, his concept of sensory chiasms. This research corresponded to a need to re-anchor a personal reflection on embodiment in an approach that could be related to my physical experience and understanding of technology. It was thus necessary to return to

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<sup>32</sup> Which was at that time one of the world's largest manifestations electronic art.

<sup>33</sup> Viewed 17 November 2014, online: <http://www.exile.at/ko/>

<sup>34</sup> Viewed 17 November 2014, online: <http://www.palindrome.de/>

<sup>35</sup> Viewed 17 November 2014, online: [http://www.nospace.net/dene/automatic\\_body.html](http://www.nospace.net/dene/automatic_body.html)

<sup>36</sup> Viewed 17 November 2014, online: <http://elpredicador.org/> <http://www.reverso.org/microsex.htm>

<sup>37</sup> Viewed 17 November 2014, online: <http://people.brunel.ac.uk/dap/>

the theories of Merleau-Ponty as a source, and, above all, to revisit his ideas before considering the various interpretations that have been made of his thinking, including those of Michel Bernard who is a reference in the matter in the field of dance. In this thesis, the sensory chiasms are related to the concept of bodily intelligence. The next section is dedicated to this topic.

### **1.7 Merleau-Ponty's three sensory chiasms**

It is impossible to consider the theories of Merleau-Ponty without looking at his concept of sensory chiasms. For Merleau-Ponty, bodily sensation is the essential point of departure for his entire phenomenological approach. The concept of sensory chiasms will also serve here to lay the foundation for discussions to follow on a reevaluation of bodily intelligence. Let us first look at the notion of chiasms.

#### **The sensory chiasms**

If, as we have seen in this chapter, Merleau-Ponty approaches perception as being inextricably linked to the notion of sensation, he subsequently develops a concept of sensory chiasms to illustrate the complexity of sensation. The etymological roots of the word chiasm stem from the Greek *khiasmos* (disposition in a cross shape, crossing, crossbreed) and the Greek letter *x* (*khi*). According to Michel Bernard, the chiasm 'designates, in the linguistic tradition, a rhetorical figure that highlights the intersections lying in an enunciation' (1993, p.57). But it also means that these intersections have the effect of giving rhythm to a sentence or establishing parallels. Attention can also be drawn to the fact that the chiasm can emphasise the union of two realities or strengthen an antithesis. With an aesthetic focus, Bernard (1993, 2001) appropriates Merleau-Ponty's concept and identifies three sensory chiasms in order to deepen the study of the

experience of corporeality. In this thesis, I examine them more specifically with respect to a relationship between the moving body and technology.

### **The first chiasm: *intrasensory***

The first chiasm reveals both the active and passive dimensions of sensation (Bernard 2001, p.118). Bernard refers to Merleau-Ponty's example of hands that touch that was referenced throughout Section 1.3 'A history of the body in phenomenology'. In the context of my research, an example might be when a dancer touches another dancer, for instance, in contact improvisation: he/she is also touched by the other person in his/her materiality. Each sensory event is an encounter experienced both actively and passively: with oneself, with the Other, or with the raw materiality of what surrounds one. This chiasm forms the basis of Merleau-Ponty's phenomenology and constitutes a principle of reversibility. It binds the individual to the world through his/her physicality that is both touching and touched. In this opening to the world and investment in sensation, corporeality is no longer expressed in terms of a subject/object relationship, one describing dualistic thinking, but rather becomes 'between the two and including the two' (Kalem n.d.). The functioning of this first chiasm is of interest for this thesis because, on a performative level, it resonates with one of the bases of exploration for work surrounding the notion of a collective body presented in Chapter 5.

### **The second chiasm: *intersensory***

In resonance with the first *intrasensorial* chiasm, the second chiasm, called *intersensory*, consists of a correspondence of all the senses together. In the functioning of the sensory system, the second chiasm points to a crossing of the senses involved in perception. It can also be related to the question of perceptual coherence.

### **The third chiasm: *parasensory***

The third chiasm, called *parasensory*, designates the close relationship between the act of enunciation and sensation. Here, one must be careful because in his appropriation and interpretation of Merleau-Ponty's third chiasm, Bernard (1993, 2001) interprets the concept of enunciation and assimilates it with language. This thesis does not share this point of view and rather adheres to the original notion of *parasensory* chiasm as developed by Merleau-Ponty. It is important to mention that in this thesis, the act of enunciation is not equated with language, but rather, in a first stage, to expression, and in a second stage, when there is a spectator, to communication.

Several modes of expression and communication exist; language and writing are not the only ones. Supported by Gardner's research on multiple intelligences ([1983] 2006), Berthoz's research on empathy (1997, Berthoz & Jorland 2004 ; Berthoz & Petit 2006; Corin 2001), Rizzolatti<sup>38</sup> (2005) and his team of collaborators on mirror neurons (Gallese n.d., 2006, 2007; Jeffers 2009; Calvo-Merino 2005) — research which is presented in the next section — as well as Suely Rolnik's concepts of the 'vibrating body' and 'dissolution of psycho-corporal barriers' (2006, n.d. b, n.d. c) — developed in Chapter 2 —, and José Gil's research<sup>39</sup> (2000) that reflects Merleau-Ponty's notion of the pre-reflective, this thesis proposes a different paradigm of expression and communication. This paradigm is based on a revaluation of bodily intelligence.

To better explain this paradigm, let us begin by analysing the issue of enunciation. For Merleau-Ponty, the act of enunciation involves the act of 'projecting

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<sup>38</sup> Giacomo Rizzolatti is a physician and biologist of Italian nationality. He is also Director of the Department of Neuroscience of the Faculty of Medicine, University of Parma, Italy.

<sup>39</sup> José Gil is a Portuguese philosopher and essayist who teaches at the *Collège International de Philosophie*, Paris. According to Gil, dance is not articulated in the manner of verbal language: it is a quasi-articulated body that stems from the 'trivial body' (in the sense of neutral) that makes possible the dancing body, a body that is not coded with absolute gesture. According to Gil, the dancing body has the ability to communicate 'between' different bodies. He introduces here the concept of bodily awareness. He also refers to Francis Sparshott (1995, p.253, cited in Gil 2000) who refuses to give dance a status of language for this main reason: 'It is impossible to break down the body into bodily movements, discrete units comparable to the phonemes of natural language'.

oneself' in sensation, thus generating a production of imaginary sensory simulacra<sup>40</sup>. It also corresponds to this thesis' interpretation of Bernard's (1993, 2001) 'act' or 'process of fiction' in which the performer imagines and projects his/her anatomy into space before acting in the physical world. However, he/she is anchored in sensation before making this projection. The body is seen onstage and occupies a specific space in physical space. Sensation, memory and imagination, for their part, are the elements that are projected outwards. Projection therefore occurs 'outside of here' (Pitozzi 2008a) – ie. outside the physical body. However, I insist on the fact that I distance myself from the relationship Bernard (1993, 2001) builds with language, and rather focus on the experiential aspect of this projection in sensation such as Merleau-Ponty understands it.

I identify this as the act or process of performative projection, because one of this thesis's contributions to this discussion is to anchor a reflection in artistic performative experience. The paradigm of communication this thesis defends thus comprises two levels: a first level as developed by Merleau Ponty (1945), which corresponds to the idea of sensation stemming from the body, which is lived and expressed in the body and results as 'a form'. The second level pertains to the expression produced inside the body as it is brought to the outside and is then communicated to the Other, to the spectator. This constitutes a communicational paradigm which, on a primary level, is expressive. A presentation will be made in Chapter 2, Section 2.8.4 of the development of different forms of performative or stage projection — demonstrating how this concept is expressed on a physical level in the context of performative arts integrating technology. For the performing artist, the union of these two realities as outlined in the notion of chiasms is interesting. I propose that these realities are understood through sensation<sup>41</sup>.

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<sup>40</sup> The question of simulacra is complex. In the space of this thesis, it is not possible to examine this issue thoroughly. I propose a definition of simulacra that designates an appearance that does not refer to any underlying reality or claims of substituting for this reality. According to Jean Baudrillard, 'simulacra are true' (1981).

<sup>41</sup> Chapter 2 looks at the question of reality and its relationship with the virtual and the actual.

## 1.8 The question of multiple forms of intelligence

### 1.8.1 Howard Gardner's theory of multiple intelligences

To understand the approach defended in this thesis, it seems important to draw attention to another essential point: that of multiple intelligences as presented by Howard Gardner in his book *Frames of Mind: The theory of Multiple Intelligences* (1983)<sup>42</sup>. A developmental psychologist at Harvard University, Howard Gardner advocates for the existence of several types of intelligence that work complementarily. His theory differentiates intelligence into specific 'modalities' (learning, sensory), rather than viewing intelligence as dominated by a single general ability. He thus makes a critique of standard theories of intelligence.

According to Gardner (1983), intelligence involves:

- 1- The ability to create an effective product or offer a service that is valued in a culture;
- 2- A set of skills that make it possible for a person to solve problems in life;
- 3- The potential for finding or creating solutions for problems, which involves gathering new knowledge.

Further, he believes his theory of multiple intelligences should 'empower learners', not restrict them to a single mode of learning. He thus proposes eight types of intelligence:

- 1- musical/rhythmic and harmonic;
- 2-visual/spatial;
- 3-verbal/linguistic;
- 4-logical/mathematical;
- 5-bodily/kinaesthetic;
- 6-interpersonal;

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<sup>42</sup> I also refer to 'Frames of mind' (Gardner 1983), quoted by Goleman (1995) and translated in French by Thierry Piélat in 1997.



7-intrapersonal;

8- nurturing and relating information to one's natural surroundings.

Later, he was to add two other criteria:

9-existential;

10-pedagogical.

Even though kinaesthetic intelligence cannot be viewed in isolation, it is the form of intelligence that most concerns the present research. According to Gardner (1983), the core elements of bodily/kinaesthetic intelligence are:

- 1) control of one's bodily motion and the capacity to handle objects skillfully;
- 2) the sense of timing;
- 3) the sense of a goal of physical action;
- 4) the ability to train responses.

Lastly, he stipulates that physical training is essential for this type of intelligence and that it cannot be attained through virtual simulation.

According to Fraleigh, 'dance must involve the kinaesthetic at vital and intelligent levels, [it is], however, necessarily [...] founded in kinaesthetic sensibility and intelligence' (1987, p.46-47). Kinaesthetic intelligence does therefore exist. It has been named and is recognised by Gardner amongst other theorists in science<sup>43</sup> and by Fraleigh in the field of dance.

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<sup>43</sup> Other theorists/studies on kinaesthetic intelligence include Gardner, Howard & Perkins (1974), Gardner & Wolf (1983), Walter & Gardner (1985), Chomsky (1980), Fodor (1983), Brown, Collins & Duguid (1989), Laves (1988), Rogoff (1982) and Scribner (1986). See also: Gardner, Howard & Hatch, Thomas (1989) 'Multiple Intelligences Go to School. Educational Implications of the Theory of Multiple Intelligence', *In: Carolyn D. Herrington & Vivian L. Gadsden (eds.), Educational Researcher*, vol.18, no.8, November 1989, California, United States: Sage Journals, pp. 4-10.

Viewed 13 September 2014, online: <http://www.sfu.ca/~jnesbit/EDUC220/ThinkPaper/Gardner1989.pdf>

## Intuition

Other forms of intelligence related to the body also exist and are expressed in different ways. To begin, let us look at intuition. Intuition is a form of intelligence that D tienne and Vernant (1974, cited by Laflamme 2009) correlate to the concept of *m tis* developed by the Greeks. *M tis* is a strategy of relating to others and nature that consists of putting oneself in the shoes of others, taking in their worldview for a moment to imagine what the other cannot see or escape. It is a form of intelligence that is based on intuition and on the relationship to the Other.

The etymological root of the word 'intuition' comes from the Latin *intuitio*: to look inside. Henri Bergson<sup>44 45</sup> ([1907] 1998; Manning 2009; Blassnigg 2008), all suggest that intuition is another modality of knowledge, another form of intelligence. It is different to logical-mathematical intelligence, which is widely recognised as the dominant type of intelligence in Western society because it is based on other ways of experiencing the world. It is expressed in terms of sensory experience, time and immediacy. Bergson argues that in the creative process, '[...] the aesthetic faculty is a constituent part of intuition in the production (and in the perception) of the art work' (cited in Blassnigg 2008). He also understood it as an effort to establish a deep interconnection between the artist and his/her work. As he explains:

[a]n effort of this kind is not impossible, is proved by the existence in man of an aesthetic faculty along with normal perception. Our eye perceives the features of the living being, merely as assembled, not as mutually organized. The intention of likeness, the simple movement that runs through the lines, that binds them together and gives them significance, escapes it. This intention is just what the artist tries to regain, in placing himself back within the object by a kind of

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<sup>44</sup> Bergson is a French philosopher (1859-1941).

<sup>45</sup> It is not possible in the space of this thesis to explore different approaches to intuition. The main principles presented here schematically which are the most useful for this thesis include:

For Plato: intuition is the immediate understanding of the truth of an idea by the soul, independently from the body.

For Descartes: intuition is the immediate and certain knowledge of the truth of an idea through its intrinsic necessity.

For Spinoza: intuition is the immediate and certain knowledge of the essence of things through the necessary understanding of their cause(s) through reason.

For Bergson: intuition is the understanding of the mind by itself in the course of time (duration). He defines intuition as the spiritual or intellectual sympathy through which one is transported within a being to coincide with what is unique, and consequently, inexpressible.

For Sartre: there is no knowledge other than intuitive. Deduction and discourse - knowledge - are only instruments that lead to intuition.

sympathy, in breaking down, by an effort of intuition, the barrier that space puts up between him and his model (1998, pp.176-7).

As an artist, intuition and use of kinaesthetic intelligence, used in tandem with intelligences as musical and rhythmic intelligence, visual, spatial, interpersonal - all identified by Gardner - are an important part of the creative strategies present in my artistic process.

Thus, and to expand the discussion, the next section looks at how, within the particular context of new contemporary performance stages, kinaesthetic intelligence, amongst other forms of intelligence, when reintroduced and revalued in the cognitive process, questions and redefines the very nature of cognition.

### **1.8.2 Empathy and intersubjectivity: a strategy of learning and recognition**

Empathy can also be considered a form of intelligence related to the body. According to Alain Berthoz, professor at the *Collège de France* where he directs the Laboratory of Physiology of Perception and Action, and Gérard Jorland, Director of Research at the *C.N.R.S. - Centre national de la recherche scientifique* and Director of Studies at l'*E.H.E.S.S. – École des hautes études en sciences sociales*, France, empathy constitutes a form of intersubjectivity: '[...] a nomadic concept, empathy responds whenever [it is a] question of knowledge, not of oneself nor of the physical world, but of others' (Berthoz & Jorland 2004, p.9). Berthoz and Jorland's understanding of empathy resembles the type of communication or space of recognition, a non-linguistic state, that is involved in the transfer of knowledge from one dancer's body to another. It also resembles Suely Rolnik's concept (2006, n.d. c) of a vibratory form of communication that can lead to new learning, to transformation. For his part, Italian neuroscientist Giacomo Rizzolatti explains the phenomenon of empathy in the following terms:

[t]he present findings strongly suggest that coding the intention associated with the actions of others is based on the activation of a neuronal chain formed by mirror neurons coding the observed motor act and by "logically related" mirror neurons coding the motor acts that are most likely to follow the observed one, in a given context. To ascribe an intention is to infer a forthcoming new goal, and this is an operation that the motor system does automatically (Rizzolatti 2005).

Rizzolatti's research on mirror neuron systems is of interest here because it presents an explanation of the 'intelligence of the body' and describes a non-linguistic state. These were also components of the practical research conducted for this thesis. Further, Rizzolatti confirms the idea that 'the brain contains in its neuronal organisation, schemas that are true behavioural acts' (Berthoz & Jorland 2004).

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Figure 10 has been removed due to Copyright restrictions.

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Figure 10: Activation of the area F5 mirror neuron during motor-act observation in Gallese, V. & Freedberg, D. (2007) *Cognitive Sciences*

Rizzolatti discovered neurons in the F5 area of the monkey's brain which discharge each time the monkey executes a particular act. These neurons were baptised

'mirror neurons'. But what is unique and useful for the argumentation of this thesis is that these neurons also discharge when the monkey *sees* the experimenter making the same gesture. Ever since, the hypothesis that neuronal networks, to which 'mirror neurons' belong, encode a schema of the monkey's behavioural repertory, is being studied. As Berthoz notes: 'This discovery argues for the existence of a repertory of pre-perceptions linked to a repertory of actions through which the brain can simulate actions in order to predict consequences and choose the most appropriate ones' (Berthoz 1997, p.27).

The message contained within the discharge of mirror neurons has the temporal and frequential characteristics of the discharge that contains relevant signals for functioning of the nervous system. Since the time Berthoz wrote his book in 1997, several experiments were conducted to verify the legitimacy of his hypotheses, even in humans (Rizzolatti 2005; Gallese n.d., 2006, 2007; Jeffers 2009; Calvo-Merino 2005). Even if the theory of mirror neurons still encounters opposition, mainly because of the rarity of these neurons, Henri Cohen<sup>46</sup> of the research group *Performativité et Effets de présence* at the University of Quebec in Montreal<sup>47</sup> is of the opinion that it has credibility in the field of international research. This thesis agrees with the conclusions of Rizzolatti and his researchers and, although they are not central to its argument, they complement other theories presented later on such as those of Berthoz (1997; Berthoz & Jorland 2004; Berthoz & Petit 2006), Rolnik (2006, n.d. a, n.b. b, n.d. c) or Pitozzi (2009b).

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<sup>46</sup> Viewed 16 October 16 2012, online: [http://www.affairesdepresence.uqam.ca/Page/archives\\_2010\\_2011.aspx](http://www.affairesdepresence.uqam.ca/Page/archives_2010_2011.aspx)  
Henri Cohen conducts research on cognitive neuropsychology, primarily on the effects of brain damage on language and speech. His work aims to clarify the acquisition and development of language in young people with neurological disorders, the effects of cortical and subcortical damage on language and speech, and intermodal treatment. The processing of prosody and access to mental lexicon are studied in healthy subjects. He also collaborates in studies on motor imagery.

<sup>47</sup> On April 1<sup>st</sup>, 2011, during his lecture *On Mirror Neurons*.

## **Phenomenology and corporeality**

A phenomenological perspective and the notion of corporeality will now be analysed with respect to Bernard's (2001, p.21) definition of corporeality as an 'opening' through which the individual deploys his/her experience in an encounter with the Other. With his notion of empathy, Husserl elaborated on the relation to the Other, thus making it possible to extend the phenomenology of egology to one of intersubjectivity. Overruling the egocentricity of the sensitive individual, empathy is the 'faculty of including in one's own environment that of the other, which has the effect of broadening the scope of one's experience to the dimensions of a world' (Berthoz & Jorland 2004, p.11). The double world of live performance as stage and environment, is also established through an intersubjective field of consciousnesses that reveals the experience of the performer as a process of interaction with the other (Pitozzi 2010a; Rolnik 2006). This point will be more thoroughly analysed in Chapter 5.

With the first intrasensorial chiasm, the experience of the performer consists of both the performer's perception of seeing and touching his partner and/or other performers, and the fact that he or she is seen, touched, perceived by other performer(s) and/or spectator(s). The empathic performer no longer simply perceives his/her own world, or the perception and kinesthesia of his/her own corporeality, but also includes others and the mutual contribution of their actions. The individual approaches others' being in a relation of coexistence within a shared world and as the basis of a common experience:

I engage with my body amongst things, they coexist with me as an embodied subject, and this life with things has nothing to do with the construction of scientific objects. Similarly, I do not understand the actions of others through an act of intellectual interpretation, the communication of consciousnesses is not established through the common sense of their experiences, but is what founds it (Merleau-Ponty 1945).

Experience thus forms the basis for the communication of consciousnesses amongst themselves. It is not only the result of individuals meeting or the effects of

interaction between two or more corporealities; it is interaction itself. In the context of practical research for this thesis, the intersubjective field became one of common interaction: between the performer, other performers and spectators in an act of reciprocal perception. Passing through the corporeality of the performer in the process of his/her interaction, sensation links, carries, the singular dimension of his/her corporeality and the specific resonances of other corporealities. It will be shown in Section 2.8.2 how the theories of Suely Rolnik complement this idea.

Through the second intersensory chiasm, not only does the performer experience corporeality in resonance with his/her own sensory impressions - amongst themselves and in their dual active and passive aspects - but also, in the hybrid configuration with others. Engaging corporeality in the process of interaction, the performer expands his/her experience of the Other, of the world, discovering the state of an immense intercorporeality. This is one of the principles underpinning the physical and mediated collective body presented in Chapter 5. It also participates in the possibility of a new communicational paradigm which is defended in this thesis and outlined at greater length in Chapters 2, 5 and 6.

The dynamic of intercorporeality also conditions a possible reconfiguration of the performer's process of projection, an idea which is analysed in Section 2.8.4. As previously noted, and according to the third chiasm, intercorporeality is involved in the process of performative projection. It also concerns the spectator's process of receiving a work.

The studies just referred to on empathy, intersubjectivity and mirror neurons provide answers for the exchanges occurring between performers and between performers and spectators. As explored in my research, evolutive psycho-physiological learning techniques already present in forms of dance training are involved and acquire

still greater intensity with the concept of a *vibratory collective body* and its development as a *collective sound body*. This research notably entails a phenomenon of transformation and 'contamination' between dancers and spectators and the learning aspect of such a process leads to another form of intersubjectivity.

To illustrate this point, one could say that the state of intersubjectivity propagates itself like a wave. The mass of dancers - the collective physical body - acts as an entity which activates this phenomenon. Contaminating all present, even spectators, it reveals another form of corporeality and leads them into a symbiotic experience. This is the strength and complementarity of the two phenomena of learning and contamination that are at play: as much on the level of corporality (or psychocorporality if one refers to Rolnik's theories) as on the level of its complementary aspect, corporeality. A full description and analysis of these points is given in Chapter 5.

### **1.8.3 Principles of the body's self-organisation**

The body's self-organisation is another form of physical intelligence. Both Rudolf Laban, a dance teacher and one of the most influential dance theorists of the twentieth century (in *La Maîtrise du mouvement* (2007)) and Michel Bernard (in *De La création chorégraphique* (2001)), speak of the body's intelligence and of dance as an organisation of movement through itself. Dance is based on a sensory and perceptual reorganisation of the body.

These definitions of dance and its qualities confirmed my own intuitions and oriented the approach I was to take with respect to creative research based on strategies of sensory-perceptual destabilisation<sup>48</sup>. They recentered my interest in pure sensation and the senses and also formed the basis of experimentation with what I call a 'de-

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<sup>48</sup> Presented in Chapter 5.



hierarchisation of the senses'<sup>49</sup>. This research involved a distancing of codes; specifically, a de-structuring of corporeal codes through the development of a 'collective body' (*corps collectif*) in a state of self-organisation. With this principle, the body organises itself through sensation itself, and self-organisation, a means to achieve a trance-like state and loss of bearings. It is precisely the loss of bearings which was to lead to the creation of a moving physical and psychological space as a form of corporeal intersubjectivity or intercorporeality. If this aspect had already formed the basis of my earlier works, it became more complex with the collective body<sup>50</sup>.

The collective body is thus linked to an application of principles of the body's self-organisation through sensation and rooted in my understanding of and training in somatic practices. The collective body was also experimented as an emergent performative form generated by the discovery and evolution of new sensations.

#### **1.8.4 The somatic and its principles**

Somatic intelligence can be considered as another form of bodily intelligence. According to Davidson, '[f]or dance practitioners, somatic intelligence constitutes a mode of corporeal experience: a form of embodied knowledge that can also be described as a skill for sensing, relating and "revealing" (2013, p.6). Ali East, dance artist and Chair of the Dance Studies Program at University of Otago, New Zealand, shares this opinion of somatic intelligence which she notes, in the specific context of dance films, 'explain(s) the instantaneous affect of gestural exchange in non-literal dance film' (2013, p.67). She supports her argument citing Erin Brannigan and her book *Dance Film: Choreography and the Moving Image* which advances the idea that this form of intelligence 'provide(s) knowledge of the unnamed' (2011, p.184, cited in East 2013).

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<sup>49</sup> A principle outlined in Chapter 5.

<sup>50</sup> Chapter 2 details my position on the ontology of the body that was a cornerstone in the development of the concept of a collective body. Chapter 1 details the position of Merleau-Ponty on the ontology of the body.

Somatic practices are practices centered on consciousness of the body. They involve training in processes of synergetic interaction between consciousness, movement and the environment. They constitute an experiential study of corporeality. Glenna Batson, Professor Emeritus of Physiotherapy at Winston-Salem State University and member of the Education Committee of the International Association for Medicine and the Science of Dance (I.A.D.M.S.) presents an overview of these practices:

The origins of western somatic education are rooted in a philosophical revolt against Cartesian dualism. [...] In 1970, philosopher and Feldenkrais practitioner Thomas Hanna coined the term “somatics” from the Greek word “soma”, meaning “the body in its wholeness.” [...] Advocates valued the unity of mind, body, and spirit as fundamental to the human organism and one’s inner, personal narrative and experience as a guide for living. [...] Western somatic practitioners who pioneered their work in the early part of the 20th century evolved their practice by closely observing their own body signals and movement behavior. [...] Movement awareness was the stimulus that spawned an array of somatic practices. [...] Two main avenues of physical practice evolved: one more ‘receptive’ (e.g., massage, craniosacral therapy, and somato-emotional release), and one more active, calling for the conscious cooperation of the person through movement awareness or imagination as catalysts for changing motor/movement behavior (e.g., Ideokinesis, Alexander Technique, and The Feldenkrais Method®) (Batson 2010).

At the time Thomas Hanna developed his theories on somatic education, he was aware of tapping into ancient philosophical contributions from the Far East. Moshe Feldenkrais and Bonnie Bainbridge Cohen also drew on Asian disciplines to develop their methods. This is interesting because Asian philosophy also underpins Christine Buci-Glucksmann's theory of an aesthetic of flux (to be further developed in Chapter 2), which in turn, constitutes one of the sources this thesis refers to in order to develop a new aesthetic paradigm.

A number of somatic practices have developed such as The Alexander Technique<sup>51</sup>, Bartenieff Fundamentals<sup>52</sup>, Body-Mind Centering<sup>53</sup>, Feldenkrais<sup>54</sup> and

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<sup>51</sup> The Alexander technique is known as the most efficient method for correcting movement and postural habits. It focuses on the reflexes controlling interrelations between the head, spine and limbs. These postural reflexes are vital to movement, breathing and general health. Unfortunately, we often pick up habits that thwart these primary reflexes, causing a muscular destabilization which can cause pain, injuries and general malfunctioning.

Viewed 18 June 2007, online: [http://www.alexandertechnique-montreal.com/alexander\\_f.html](http://www.alexandertechnique-montreal.com/alexander_f.html)

<sup>52</sup> Bartenieff Fundamentals is the technique I had the most knowledge of as I studied it for five years. In a conversation on 28 July 2013 with Jacques Brochu, a teacher of somatic practices (particularly Feldenkrais), the fact of having studied one technique in depth prepares the body to integrate other techniques faster. I experienced other techniques in intensive seminars.

*What is Bartenieff Fundamentals (SM)?*: A series of exercises, principles, and body practices developed by physiotherapist Irmgard Bartenieff during the second half of the 20<sup>th</sup> century, in the framework of Laban’s movement theories. This body movement approach is now called Bartenieff Fundamentals (BF) (SM).

Trager<sup>55</sup>. Bartenieff Fundamentals and, to a lesser extent, the Alexander Technique, were techniques I became familiar with, having studied them for five years. I wish to clarify however, that as a practitioner, I never studied Body-Mind Centering but it is obvious that elements of this technique are integrated in other somatic techniques and that dancers, such as Marie Chouinard, with whom I studied in Montreal, incorporated notions of Body-Mind Centering in her classes such as awareness of breath, perception and touch.

Somatic education is based on a main idea of dismantling mind-body dualism. It seeks to awaken autonomy: 'Self-awareness, self-control and the active application of the will to the processes of growth and development are the major themes of this education' (Juhan 1998, cited in Batson 2010). Three key elements underlying the principles of somatic education are: determining a "Novel Learning Context", developing "Sensory Attunement" and "Augmented Rest" (Bernardi 2007, cited in

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Rooted in the progression of human development, this subtle and concentrated practice, encourages the perception of the body's connections and of the individual numerous relationships with his/her internal/external environment.

Basic concepts covered in BF classes include: Dynamic Alignment, Developmental Patterning, Breath Support, Core Support, Center of Weight and Weight Shift, Initiation and Sequencing, Spatial Intent, Effort Intent, and the Rotary Factors.

Viewed 18 June 2007, online: [http://www.limsonline.org/lma\\_bf.html](http://www.limsonline.org/lma_bf.html)

<sup>53</sup> Body-Mind Centering<sup>®</sup> (BMC<sup>™</sup>) is an integrated approach to transformative experience through movement re-education and hands-on repatterning. Developed by Bonnie Bainbridge Cohen, it is an experiential study based on the embodiment and application of anatomical, physiological, psychophysical and developmental principles, utilizing movement, touch, voice and mind. This study leads to an understanding of how the mind is expressed through the body and the body through the mind.

The study of Body-Mind Centering<sup>®</sup> is a creative process in which we learn to meet and recognize ourselves and others through the exploration of embodiment. Each person is both the student and the subject matter. Principles and techniques are taught in the context of self-discovery and openness. We learn to engage ourselves and others non-judgementally starting at the place where we are and the place where others are. In this way we seek to find the ease that underlies transformation.

Body-Mind Centering<sup>®</sup> has an almost unlimited number of areas of application. It is currently being used by people in movement, dance, yoga, bodywork, physical and occupational therapy, psychotherapy, child development, education, voice, music, art, meditation, athletics and other body-mind disciplines.

Viewed 18 June 2007, online: <http://www.bodymindcentering.com/About/AboutBMC/>

<sup>54</sup> The Feldenkrais method is an educational system that allows the body to move and function more efficiently and comfortably. Its goal is to re-educate the nervous system and improve motor ability. The system can accomplish much more, relieving pressure on joints and weak points, and allowing the body to heal repetitive strain injuries. Continued use of the method can relieve pain and lead to higher standards of achievement in sports, the martial arts, dancing and other physical disciplines.

Viewed 18 June 2007, online: <http://www.enotes.com/alternative-medicine-encyclopedia/feldenkrais>

<sup>55</sup> Trager psychophysical integration therapy, also known as the Tragerwork system of physical integration, is a combination of hands-on tissue mobilization, relaxation, and movement reeducation called Mentastics. The underlying principle of psychophysical integration is that clients learn to be lighter, easier, and freer by experiencing lightness, ease, and freedom of movement in their bodies.

Viewed 18 June 2007, online: <http://www.answers.com/topic/trager-psychophysical-integration-1?cat=health>

Batson 2010). I have integrated these elements in my process of creative research using the following tools: focusing attention on the sensory stimuli of the body such as breathing, muscular tension or bodily contact with the floor or another body part; developing a state of total presence and being receptive and sensitive to moments when movement takes place; creating intervals between feeling and movement so that dancers can explore their attention and sensory information resulting from either immobility or from movement they execute, or, in the context of the collective body, movement that is stimulated through contact with another person's body or the group as a whole. Sensory attunement is a very interesting tool because it places accent on:

[...] sensory awareness (paying attention to sensing) over motor action (doing). [...] Giving dancers the opportunity to explore - and make sense of - inner sensations (neural signals), fosters 'sensory authority', a baseline for self-guidance and control. Sensory authority promotes movement autonomy (the capacity to self-organize movement internally) differing from common external references used in learning dance [...] kinaesthetic awareness functions largely as a potent agent of change - a powerful means of altering habit (Batson 2010).

I also use the Augmented Rest as a creative means of integration. This third concept of somatic education offers alternating phases of rest and activity which are 'designed to allow the nervous system time for processing information and integration and physiological systems time to recover' (Batson 2010). Physical recovery allows for motor programming (or reprogramming): 'Rest periods help consolidate memory (you'll remember when you learned) and improve motor recall (you'll more readily call it forth when you need it)' (Batson 2010). Additionally, it serves to remember specific sensations or known sensations as references from which to recreate movement, a bodily state or establish an intercorporeal link. Lastly, it helps to improve outcomes so the dancer can improve and push his/her exploration of sensory perception further in order to discover, amongst other things, his/her potential for mobility.

The Bartenieff method is mainly referenced in this thesis. Its principle of bodily self-organisation is very much integrated in my practice. In the practical experimentation involved in this thesis, bodily self-organisation was approached

through sensation and in a completely intuitive way. It was through developing awareness of my own body, and then directing this development in/for dancers that experiments were conducted. By creating the conditions for concentrating on sensory feedback, firstly through small movements associated with the breath and then through developing larger movements related to the latter, the dancers could identify degrees of muscular contraction that allowed them to perform movement with greater awareness of sensation and often discovered through these exercises. These are what this thesis identifies as strategies of sensory and perceptual destabilisation. They are presented at greater length in Chapter 5, in addition to examples of the application of these strategies in the practical research.

Through such exercises of discovery, the dancer actually reveals different sensations associated with the exploration of his/her 'new' movement. The dancer thus constructs other references around sensations just discovered that can be used to further explore areas of movement that are yet unknown, or to reproduce movement by referring to recent sensations. As Batson argues:

[t]he purpose of such a "playground" of movement is to disturb habitual movement patterns buried in the body schema. As the old habitual patterns begin to dissolve in an environment of ease and security, new options for coordination become possible (Batson 2010).

Hubert Godard, ex-dancer, cofounder of the Dance Department of *Université Paris 8* where he teaches movement analysis, and a major dance authority on questions concerning the perception of the body "from within", calls these recurrent movement patterns a form of 'choreographic neurosis' (Kuypers 2006). This term has been defined by other theorists as the difficulty of relinquishing habitual gesture (Quinz & Menicacci 2005, 2006; Pitozzi 2010a)<sup>56</sup>. According to Batson (2010), Pitozzi (2010a) and Quinz & Menicacci (2005, 2006), movement habits can however change, provided that an exploration of other sensations is permitted. In the practical research for this thesis,

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<sup>56</sup> This notion is taken up again in Chapter 5.

these strategies as forms of sensory and perceptual destabilisation, were intended to provoke the emergence of a new potential in the experience of movement, bodily states, stage projection and intercorporeality.

In conclusion, attention should be drawn to one of the goals of the practical research conducted for this thesis. This was to establish a series of conditions to broaden the scope of my action and consciousness, and also the dancers', in order to embrace the reality of technology and its physicality, and, by extension, to live a different and enriching experience of embodiment. If this process was not always conscious - and it was not my intention that it should be, in order to allow bodily intelligence of different types to guide me - this thesis attempts to contribute reflections on the performative relationship between the somatic and technology through the hypotheses it proposes. As Andrea Davidson notes, new orientations between the somatic and technology, '[f]rom the point of view of practical research, [...] confirm the body's role as privileged site in the construction of knowledge and the undeniable meshing of the senses with/in mediated experience' (2013, p.11).

## **1.9 Summary**

If the principle of reversibility has attracted the attention of many artists who rely on phenomenology to feed their artistic practices, this thesis intends to push this reflection further. In the field of research concerning experimentation with/of integrative links between somatic principles and technology, it claims that it is not possible to consider sensory and perceptual dynamics without considering the interdependence of the three chiasms outlined in the previous sections. One chiasm necessarily affects the other in the multi-sensory and interdependent dynamic that lies at

the core of this research. In Chapter 5, which presents the phases of practical research involved, examples of these explorations are provided.

In introducing phenomenology and the positions and concepts of Maurice Merleau-Ponty concerning anti-dualism, the lived body, the ontology of the body, corporeality, the flesh and intercorporeality, this chapter looked at the evolution of this philosophical movement throughout history, focusing on a history of the body in phenomenology and looking at some of the applications of phenomenology in the field of dance in general and in the specific field of dance/somatics related to technology. It introduced Merleau-Ponty's theory of three chiasms as a way of understanding the complexity and complementarity of different types of sensations and also highlighted the issues of multiple intelligences and 'bodily intelligence'.

The chapter also provided elements for understanding the importance of Merleau-Ponty's existentialist approach and how it influenced modern and particularly postmodern dance through the concept of 'the lived body'. It also examined how the performative attitude - described as an act of personal risk-taking - can resonate with the principles of existentialism.

This brings attention to the body itself, to the self. Through analysing the dynamics of sensation, it was seen how sensation is tied to a specific intelligence of the body. The revaluation of this intelligence is highlighted in somatic principles: notably in the body's capacity for self-organisation through sensation, as well as through learning processes involving intersubjectivity, empathy or mirror neurons - principles I adopted in my approach to practical research. These approaches allowed me to embrace the concept of sensory autonomy which Batson (2010) outlines in her explanation of the key elements of somatic education, and to begin to look at how sensory autonomy could be an important tool for creative strategies involving the body and technology.

Following these analyses, Chapter 2 examines issues specifically related to understanding the relationship of the body with technology, firstly by presenting an overview of the history of this relationship. The concept of the virtual is then introduced, leading to an analysis of the concept of potentiality as a potential of 'becoming' and of the transformation of self - both strong elements in the relationship with the interface proposed in the thesis.

This alternative approach to the interface is presented in the light of the Greek root of the word "aesthetic" which places attention on sensation and the ability to perceive. In turn, attention will be drawn once again to the question of bodily intelligence and the activation of a bodily potentiality that is a component of this type of intelligence. I then look at the conditions of this activation, in part, through a concept developed by Suely Rolnik involving a dissolution of psycho-physical borders that will be consequently presented as one of the factors leading to intercorporeality. Again with reference to bodily intelligence, the chapter examines how the notion of real-time can serve as a tool for developing a complexification of corporality in the context of the performing arts integrating technology.



**2. CHAPTER II – THE MEDIATED BODY IN THE ERA OF NEW TECHNOLOGIES**  
**Literature review - Elements for a theoretical foundation and basis of practice as research**

**2.1 The problem of reorganising knowledge within the discipline**

This chapter sets out to present the basic positions of the thesis as well as to analyse the logic underpinning the problem of instrumentalisation introduced in Chapter 1, Section 1.4.1 as being linked to dualistic Western thought. This issue is of capital importance for my research because it led me to reevaluate existing technological interfaces and their relationship to the performing body.

Chapter 1 identified a basic problem of reductive thinking when applied to the field of the performative body in relation to technology. It was notably shown how it leads to a diminishment of the impact of the body's specific intelligence as well as to a compartmentalisation of artistic disciplines that neglects their potential for integrative and transversal forms of knowledge. The consequence of this reductionism can be seen in the emergence of two main problems the thesis has identified so far: increased materialism and a disjunction of knowledge resulting from a lack of critical thought regarding the use of technology and its creative potential. Another problem that arises from these tendencies is an instrumentalisation of art and of the performer's body whereby technology and the body are used as tools, and a transition is marked from an object-oriented aesthetic towards an aesthetic of behavioural processes (process-oriented behaviourism) (Ascott [1966-67] (2003); Burnham [1968; 1969] 1973). In the case of performing arts that integrate technologies in their discourse, my research reveals that the performative body has also often been considered as an object.

Unfortunately, and through error, the focus of certain artistic practices has been to attribute behaviors to objects and to address the performative body as these objects, rather than to question the nature of behavior itself and the relationship between the moving body and technology.

## **2.2 A few historical passages to frame the issue**

One of the first problems associated with reductive thinking is that of disciplinary boundaries. The segmentation of knowledge poses the problem of looking at information in a partial way and not in its entirety. Complementary elements are not taken into consideration either. Studies do, however, exist such as those conducted by Jack Burnham<sup>57</sup>, a professor at Northwestern University and the University of Maryland, which look at relationships between art and technology and the influence of science and technology on sculpture of this century ([1968; 1969] 1973). Anthropological studies exist in dance, notably, studies on aboriginal cultures (Highwater [1981] 1985; Stoller 1997), as well as research on somatics (Batson 2010) that all remind us of the transversal and integrative nature of relationships which constitute the foundation of humanity. The point this thesis advances is that knowledge functions as a whole. As a consequence, life must be approached as a process of being and not as a thing, material object or structure.

Concerning the moving body, this argument is a starting point and theoretical node for analysing performative work. From this point of view, reductive thinking, as a problem related to the status quo, must be examined<sup>58</sup>. Materialism is supported and maintained by science and technology. They dictate what we know of the world and condition the relationships we have with ourselves and our surroundings. Scientific

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<sup>57</sup> In his book *Beyond Modern Sculpture*.

<sup>58</sup> Introduced in Sections 1.3 and 1.6.

paradigms are based on rationalism and materialism and find support, as Burnham notes, in the fact that science rejects everything that is not materialistic or that cannot be seen. Merleau-Ponty (1964a) and Kozel (2007) have also analysed these issues from the point of view of phenomenology. The problem of what is true remains and it was shown in Section 1.6, and it will also be shown in Sections 2.5 and 2.6, how other theorists such as Buci-Glucksmann (2003) or Kuriyama (1999) deal with the issue of what is considered invisible in society.

### **An integrative position**

Within this context, the thesis positions itself regarding a need to develop a different mode of thinking in order to escape reductive, disciplinary and materialistic traps inherited from the segmentation of knowledge. It proposes a form of integrative thinking that was referred to in Section 1.8 on the different forms of corporeal intelligence.

The etymology of the verb "to integrate" stems from the Latin root *integrare* which takes on its full meaning in the medieval Latin interpretation of the word as 'making complete' (Robert 1990) or 'to make whole' (*Centre national de Ressources Textuelles et lexicales*, 2012)<sup>59</sup>. According to Ho (1993); Ascott ([1966-67] 2003); Koestler ([1969] 1971); Burnham ([1968; 1969] 1973); Nobrega 2009; Batson [2010] integrative thinking constitutes another modality of thought. These authors all agree that it is essential to reappropriate the full participation of a 'knowing being: intellect and feeling, mind and body, spirit and intuition' (Ho 1993, p.13). Ho (1993), Ascott ([1966-67] 2003), Koestler ([1969] 1971), Burnham ([1968; 1969] 1973), and Nobrega (2009) push this logic further, stating that, for them, artists and scientists have the same goal: to

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<sup>59</sup> Viewed 2 October 2012, online: <http://www.cnrtl.fr/etymologie/intégrer>

build 'models of reality', regardless of their medium. Reality, as referred to in this thesis, integrates the virtual and the potentiality it carries<sup>60 61</sup>. Although Ascott positions himself from the perspective of developing new educational methods in the arts, the context in which he develops his analysis is that of the cybernetic arts as principally applied to painting and sculpture and to their behavioural extensions. In the case of Burham, the reference is mainly to sculpture. Their arguments are nevertheless of interest because they fit into a context that is increasingly transdisciplinary and transversal.

This thesis thus embraces a more integrative position to practice as research and I am in agreement with Davidson's view (2013) that the development of trends in dance and technology should be approached from an interdisciplinary, transversal and experimental perspective. To accomplish this, the thesis firstly bases its reasoning on a definition of the experimental offered by Roy Ascott: 'I use the word experimental to mean making an action the outcome of which is not foreseen' ([1966-67] 2003, p.123)<sup>62</sup>.

### **2.3 The question of instrumentalisation**

The problem of instrumentalisation previously identified as stemming from a fundamental misunderstanding of the relationship between body movement and technology, should now be addressed in greater detail.

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<sup>60</sup> For example, the process of performative projection or 'presence' is a 'model of reality'. The experience of a modification of interiority, presented later in Section 2.8.4 and in Chapter 5 are, both for the performer and the viewer, is also a 'model of reality'.

<sup>61</sup> Precisions on this point are made in Section 2.6, on the use of terms 'real', 'virtual' and 'actual'.

<sup>62</sup> This thesis thus proposes incorporating this trend in what are called the new contemporary performative stages (seminar given in the context of doctoral studies in *Doctorat en Études et pratiques des arts* by Enrico Pitozzi and Emanuele Quinz at the *Université du Québec à Montréal* in January and April 2010. 'Seminar EPA903E-10, Thematic Seminar III. Arts: Languages, materials and technologies. The sound body. The body as presence in installations and onstage'.

Instrumentalisation is a problem tied to the development of materialism and a phenomenon of separation. It is a relatively new terminology. Compared to analyses in the fields of dance (Fraleigh 1987; Rousier & Sebillotte 2004), music (Péijus 2008), cinema and computer-based animation (Calver, Chaptman & Patla 1980; Paradiso & Hu 1997) and more recently, in the context of video games<sup>63</sup>, the theories of Ascott ([1966-67] 2003) and Burnham ([1968; 1969] 1973) on the instrumentalisation of art seem the most pertinent in the context of this thesis. Both authors have raised this issue with respect to technology being used as a tool to pass from a former object-oriented aesthetic to a process-oriented behavioural<sup>64</sup> aesthetic. According to their findings, this transition occurred in all spheres of art and has had a major influence. Unfortunately, and as this thesis has underscored, the focus of certain artistic practices has been to designate behaviours to objects rather than to question the nature of behaviour itself. The basis of this instrumentalisation is a fascination with, and staging of the power of technology.

On a physical level, there are also consequences. According to observations made by my research, the transition to an aesthetic of behaviour also traversed the field of 'dance and technology' and this phenomenon can be seen in the early works of such artists as Troika Ranch, Jean-Marc Matos or Palindrome in ways where technology is staged with the moving body in order to provoke technological effects. The performative body is mainly involved in triggering images or pre-recorded video sequences which are projected on screens at the back of the stage with performers positioned in front of them. Sensors constitute "zones" within the performance space that are triggered when the dancer comes in contact with them (with the hands or other

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<sup>63</sup> In an email sent by the *NT2* group affiliated with the University of Quebec in Montreal in October 2010, *NT2* announced the conference *The online video game: A new space for socialising by Homo Ludens*, which took place from 28-30 October 2011. In the announcement, the group suggests the need to question 'the modes of socialisation created by networked video games and to question the various forms of instrumentalisation (false 'friends'), domination, exclusion and dependency that this kind of community can encourage'.

<sup>64</sup> Behaviorism is a branch of psychology that focuses on observable behavior determined by the environment and the history of interactions between the individual and his/her environment.

body parts). For example, Mark Coniglio of Troika Ranch created a tool called called Isadora, 'a graphic programming environment that provides human control over digital media, with special emphasis on real-time manipulation of digital video'<sup>65</sup> (2004, cited in Kuypers & Corin 2004).

As for *Palindrome*, the group uses the same type of interactive system, although the group's focus is more on music. Musical sequences or independent sounds are triggered when the dancer makes a gesture producing a first degree type of interaction. The principle of design involved can be described as one of addition and/or of superposition of gestural and scenic elements - here, technological in nature - and that are often linked by the theme the artist has chosen. An overview of the evolution of the interface - a question related to the notion of interactivity - and the presentation of the main issues concerning traditional as well as more recent approaches to interface are presented in Sections 2.7 and 2.8 of this chapter.

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Figure 11: performance of Troika Ranch, *16 [R]evolutions*, n.d.<sup>66</sup>

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Figure 12: Troika Ranch, *In Plane crouch*, n.d.<sup>67</sup>

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Figure 13: Jean-Marc Matos, *Talos le Robot*, 1988.<sup>68</sup>

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Figure 14: *Cie Palindrome, workshop*, n.d.<sup>69</sup>

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<sup>65</sup> Viewed on 28 October 2014, online: <http://www.troikaranch.org/technology.html>

<sup>66</sup> Viewed 17 December 2013, online: <http://www.troikaranch.org/gallery16Rev/g-16rev.html>

<sup>67</sup> Viewed 17 December 2013, online: <http://www.thereinvox.com/ezimagecatalogue/catalogue/php3US5Hw.gif>

<sup>68</sup> Viewed 17 December 2013, online:

<http://media-cache-ec0.pinimg.com/236x/2b/00/03/2b0003424ac60d90cb9ae179e46f3d6b.jpg>

<sup>69</sup> Viewed 17 December 2013, online: <http://yagodequay.files.wordpress.com/2010/05/capture1.jpg>

This complementary problem of instrumentalisation of which I was amongst the first researchers to identify (Choinière 1993) owing to my experience and work as a dancer, developed under the influence of materialism and the theory of extension as mentioned in Section 1.3 on dualism and the birth of the body. The performative body was approached as an object or screen, as for example, in the works of Paul St-Jean<sup>70</sup> of *l'Écran humain*, Klaus Obermaier<sup>71</sup> or Alwin Nikolais<sup>72</sup>. Nikolais had been influenced by Quantum Theory and the Theory of Relativity. He created a form of total spectacle in which dancers, lighting, set design and music were given equal importance. The dancer was a part of this environment. According to Anne Livet (1978), director of Performing Arts and curator at the *Forth Worth Art Museum*, and Sondra Fraleigh (1987), Nikolais developed an abstract relationship to movement in which the dancer is no longer at the centre. Dancers' bodies could, for example, serve as surfaces for projecting colours of light prisms. Here is how Nikolais presents his work:

[I] became interested in exploring new dimensions of time and new dimensions of space. In my period of study we were still concerned with the Aristotelian principles of the unities of time and space, and one of my first actions was to destroy the unities and look upon them as relative. My point of view then became more Einsteinian. The whole structure in my works changed, the whole outlook of the dynamics of the human body changed, because the dancer no longer had to assume its previous role of actor (cited in Livet 1978, p.191).

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Figure 15: Alwin Nikolais, *Echo*, 1969<sup>73</sup>

Figure 16: Alwin Nikolais, *Scenario*, 1971 in Livet, Anne (1978) *Contemporary Dance*

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<sup>70</sup> Viewed 26 June 2011, online:

[http://2plusinternational.com/index.php?option=com\\_content&view=article&id=72&Itemid=105&lang=fr](http://2plusinternational.com/index.php?option=com_content&view=article&id=72&Itemid=105&lang=fr)

<sup>71</sup> Viewed 19 September 2008, online: <http://www.exile.at/ko/>

<sup>72</sup> Viewed 16 August 2008, online: [http://www.pbs.org/wnet/americanmasters/database/nikolais\\_a.html](http://www.pbs.org/wnet/americanmasters/database/nikolais_a.html)

<sup>73</sup> Viewed 17 December 2013, online: <http://perlbali.com/blog-images/584126/gd/128670620286/OP-ART-12-LE-BALLET.jpg>

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Figure 17 has been removed due to Copyright restrictions.

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Figure 17: Alwin Nikolais, *Noumenon*, 1953<sup>74</sup>

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Figure 18: Klaus Obermaier, *Apparition*, 2004<sup>75</sup>

The performative body can also be approached as part of a machine, as in the work of Australian artist Stelarc and Catalan artist Marcel Li Antunez Roca. Here, the body of the performer becomes a tool in the service of technology and is used as a trigger to activate media (sound, lighting, robotic movement, video, *et caetera*). This double instrumentalisation is interconnected and, according to my research, stems from a confusion and misunderstanding of the nature of technology and of the inherent relationships between the moving body and technology that are briefly analysed in the next Section.

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Figure 19: Stelarc, *Amplified Body, Laser Eyes & Third Hand*, 1986<sup>76</sup>

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<sup>74</sup> Viewed 17 December 2013, online: [http://www.ohio.edu/ohiotoday/images/dance\\_2.gif](http://www.ohio.edu/ohiotoday/images/dance_2.gif)

<sup>75</sup> Viewed 17 December 2013, online: [http://www.exile.at/apparition/photos/apparition\\_text.jpg](http://www.exile.at/apparition/photos/apparition_text.jpg)

<sup>76</sup> Viewed 17 December 2013, online: [http://www.exile.at/apparition/photos/apparition\\_text.jpg](http://www.exile.at/apparition/photos/apparition_text.jpg)



## 2.4 On the relationship of the body and technology: a look at the history of ideas

The relationship of the body and technology (Leroi-Gourhan [1943] 1971; [1945] 1973; Simondon [1958, 1969, 1989] 2001) cannot be reduced to a mere question of instrumentalisation. Both this thesis and my research over a period of twenty years in the field of dance and technology point to the fact that this issue is based on an incorrect understanding of the nature of the technology, its role in the world and the relations humans entertain with it.

In his essay *The Question Concerning Technology*, Martin Heidegger ([1954] (1958) draws attention to the essence of technique based on the thought of the Greeks. In 1954, he elaborated a critique of modern technology. In his essay, Heidegger primarily asserts that the essence of technology '[...] is by no means anything technological' (Heidegger [1954] 1958, p.9). His main concern is with human existence and the relationship technology has to it. To understand the stakes of such a relationship, Heidegger suggests that '[...] the questioning about technology must be put in terms of not *what it is* but of *how* technology refers to the ontological way things reveal themselves' (Heidegger [1954] 1958, cited in Nóbrega 2009, p.25).

For his part, prehistorian André Leroi-Gourhan provides an understanding of the evolution of technology in close relation to the evolution of the body, and thus of gesture. He continues in the tradition of Heidegger, but from the point of view of the body and not of the object or particular discipline (painting, sculpture, *et caetera*). Here, it is important to note that for Leroi-Gourhan, technology is directly related to tools:

[r]egarding technology and by extension ethnology, my position remains categorical: there is no break other than verbal below and beyond the mysterious border of civilisation. Technology, a precise word of modern industrial vocabulary, is progressively extending to encompass both the television set and the ancient flint (Leroi-Gourhan [1945] 1973, p. 315-316).

The author presents the phenomena of technological and human evolution as an absolute combinator: that of the interdependence of the body's evolution to respond to the need of adapting to its environment, and the evolution of the environment to meet the needs of the body. According to Leroi-Gourhan ([1945] 1973, p.332), '[...] the human group assimilates its environment through a curtain of objects (instruments, tools)'. He calls the study of this superficial envelope, technology, and associates technical development with gesture. This is a very important notion for this thesis, and it is also essential for understanding my hypothesis concerning a corporeal potentiality based on the interval which is presented in Section 2.8.

Leroi-Gourhan thus studies technology through the gestures associated with it. He does not present technique as a single element, but rather analyses it through a concept of continuity that he designates as a 'technical ensemble', for example, the wheel which leads to the chariot. With this logic of continuity, he also notes (Leroi-Gourhan [1945] 1973, p.112-113) that, '[...] a tool becomes a machine according to a certain level of mechanical complication. The machine appears as a device that frequently incorporates not only the common tool, but before all, one or more gestures'.

Leroi-Gourhan builds his argument from the point of view of the body and experience. It is a vision that comes from consciousness of the body from within, and not from an external point of view, as an observer. In Section 2.5, an analysis of the history of the body and technology also looks at the question of the ontology of the body. It will be seen how inner awareness of the body, a notion developed in the twentieth century, is an essential focal point for developing a new relationship between the body and technology.

## The problematic of the double: introduction

The specific perspective Leroi-Gourhan adopts allowed me to build the concept of a sound body<sup>77</sup> that is in fact, a vibrating body and complexification of the physical body or corporality. This concept proposes that the body is modified phenomenologically, sensory-perceptually and not *lived* as a double. The idea of the double first derived from theories of extension dating back to the Egyptians, and later taken up by Descartes and Simondon ([1958, 1969] 1989), theories that were introduced in Section 1.3. Simondon speaks from an external point of view and understands technology, in part, as an extension of the body, rather than considering the relationship body-technology from an internal, integrative and interdependent perspective as Leroi-Gourhan proposes. The phenomenological modification of the body of a sensory-perceptual nature which I propose challenges the notion of the double and supports one of the secondary hypotheses of the thesis concerning the emergence of new types of performative behaviour as discussed in Section 2.8.4<sup>78</sup>.

Leroi-Gourhan bases his understanding of the evolution of technology on the experience of the body: a physicality that is experienced when one uses tools. For Leroi-Gourhan, and also the position defended in this thesis, technology must firstly be lived to be understood. His research methodology is based on an experimental study of technology, an idea of methodology that I, too, experimented with intuitively and share a same interest for. Right from the start, he integrates the development of the body and its evolution with the evolution of technology, which he identifies as the environment of human beings.

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<sup>77</sup> Analysed in Chapter 5.

<sup>78</sup> A more specific analysis of the notion of the double is proposed in Section 2.8.4 as well as in the presentation of my methodology with performers in Section 4.3.1.

This position supports the hypotheses, research methodology and strategies underpinning the practical research proposed in this thesis in order to to escape from an instrumental vision of the relationship between the body and technology. They include the notions I developed concerning sensory-perceptual destabilisation, the 'de-heirarchisation' of the body and the senses, the self-organisation of the body, the possibility of an internal reorganisation of the physical body, along with the concepts of a physical and collective sound body. At the same time, this position opens onto the development of an integrative vision of the relationship between the body and technology that is of capital importance in this thesis.

## **2.5 Historical precedents: the body and technology**

Let us now turn our attention to historical precedents concerning the relations between the body and technology.

In Chapter 1, Section 1.3, a presentation was made of the three main stages of the history of the body and technology as identified by Jean-Jacques Courtine, stages in/through which the twentieth century conceptually 'invented' the body. They included the following actors/theories: 1- Freud who claimed that the unconscious spoke through the body; 2- Husserl who initiated the idea of the body as an original source, hence a subject; 3- Mauss who spoke of the importance and singularity of the body's techniques. Later, through this process of change, the body also became inscribed socially and culturally through medical visualisations, genetic manipulation, ethical and legal debates over the ownership of reproductive cells, the standardisation of the body subject to a triple control of cosmetics, dietary regimes and plastic surgery, the body on Internet, notions of sexuality as the right to pleasure, *et caetera*. Also, with the protest

movements of the 1960s and the feminist movement demanding women's ownership and right to their own bodies, an obsession with linguistic structuralism began to wane<sup>79</sup>. The twentieth century was a veritable tidal wave concerning the question of the body and this thesis shares Courtine's conclusions as to the fact that the history of the body is just beginning. The next section intends to make a humble contribution to these questions and explorations, while indicating areas of research I explored for this thesis.

Through their analyses, Courtine and his team of collaborators offer some definitions that help to understand different concepts of the body from a Western perspective as a complement to Merleau-Ponty's idea of 'the body itself' that was presented in Section 1.3. A few of these definitions will be examined in order to situate the framework for my analysis.

Pascal Ory<sup>80</sup> (2006), professor of contemporary history at the *Sorbonne Paris I* proposes a contemporary historian's view of the concept of the '*ordinary body*', as defined by and subject to the influence of general movements in society. Meanwhile, Georges Vigarello (2006), member of the *Institut Universitaire de France*, professor of history at *Université Paris V* and director of studies at the *École des Hautes Études en Sciences Sociales*, in his analysis from the point of view of the social sciences, proposes the *technical body* that is a body that can be measured. Subject to physical training (often involving machines), the technical body is dependent on a calculation of efficiency of its progress. Vigarello also cites the work of Etienne-Jules Marey as having inaugurated a wave of fashionable devices for evaluating human movement (2006, p.178).

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<sup>79</sup> This issue is further discussed in Section 1.7 in the analysis of Merleau-Ponty's third sensory chiasm from Bernard's perspective (2001) and also in Gil's analysis (2000) in a footnote in this section.

<sup>80</sup> Pascal Ory is the author of some thirty books on the political and cultural history of contemporary Western societies.

## The body from within

Vigarello additionally brings up another point of interest concerning the technical body. Following the First World War<sup>81</sup>, athletic modes were to create the development of an internal awareness of the body — of sensations and internal bearings — which is revealed through the control of muscles and movement. It is "the body from within", a concept which can be related to the theories of Leroi-Gourhan, as well as to theories of the somatic (Batson 2010), and to Hubert Godard's research which were evoked in Section 1.8.4.

If, according to Vigarello, the body from within is the starting point for developing a working awareness of perception and feeling<sup>82</sup>, according to Annie Suquet<sup>83</sup> (2006), who adopts a historian's perspective of dance, this new awareness of the body occurred well before with the work of American dancer Loïe Fuller<sup>84</sup> in 1892 with *la Danse Serpentine* and *Danses* and continued with the work of Étienne-Jules Marey, pioneer of photography and precursor of cinema. According to Erin Manning<sup>85</sup> (2009)<sup>86</sup>, and also as discussed in conversations for my research with Enrico Pitozzi in 2010, Marey was a great investigator of these changes as he renewed understandings of the body through developing awareness of sensation and perception (as had Fuller)<sup>87</sup>. Fuller and Marey both worked to make the trajectory of movement visible in their

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<sup>81</sup> First World War: 1914-1918.

<sup>82</sup> Of which Laban and Bernard are major influences with their work on the self-organisation of the body and their approach to dance as based on a sensory and perceptual reorganisation of the body as presented in Section 1.8 on the different forms of kinaesthetic intelligence.

<sup>83</sup> Annie Suquet is a dance historian. She was as resident researcher at the *Merce Cunningham Dance Foundation* in New York for three years while working for the *Revue RES: Anthropology and Aesthetics* (Harvard University).

<sup>84</sup> Fuller (1862-1928).

<sup>85</sup> Erin Manning holds a University Research Chair in the *Faculty of Fine Arts* at Concordia University, Montreal.

<sup>86</sup> Manning makes an historical analysis from the perspective of a branch of philosophy called Radical Empiricism. What William James (1996, cited in Manning 2009), calls Radical Empiricism is 'a pragmatic investment in the relation between objects and worlds'. He defines it as 'an empiricism [that] must neither admit into its constructions any element that is not directly experienced, nor exclude from them any element that is directly experienced' (1912, p.42 cited in Manning 2009). Radical empiricism is radical because it begins with the actually imperceptible – relation – and asks how relation produces events of knowledge. In radical empiricism, there is nothing prior to direct experience, and no way to work outside of experience's incipient relationality. 'For such a philosophy, the relations that connect experiences must themselves be experienced relations, and any kind of relation experienced must be accounted as "real as anything else in the system" ' (James 1912, p.42 cited in Manning 2009). Berthoz (1997, p.26) criticises this empirical approach at a time (1970-1980) when the domination of research on perception which was isolated from action also came from a philosophical subordination of action to perception.

<sup>87</sup> If Suquet and Manning/Pitozzi disagree as to which artist was initially interested in perceptual changes related to the issue of movement, this thesis takes Suquet's side.

respective work. In so doing, they also played with the perception of time, because the metamorphic unfolding of form in their work arises from the annihilation of existing forms preceding them. The trace of movement, usually invisible, became visible thanks to technological intervention. These two artists thus opened up another space of perception.

### **An introduction to the question of the invisible**

The question of making visible what is normally invisible through technology is important for this thesis because it invests in another perceptual space. Other artists from different disciplines were also interested in the question of renewing perception of the body through the use of technology. For example, Walter Benjamin (1892-1940), offers a perspective concerned with 'the ways in which technologies affect(ed) the corporeal' (cited in Gromala 2007, p.39). Developing a concept of the "optical unconscious" in *A Small History of Photography* ([1931] 1979), Benjamin's analysis of modernity contextualises film and photography as technologies, and he argues that certain technologies can reveal the world in ways that were previously impossible to perceive. He takes as an example the cinematic effect of slow motion:

Whereas it is commonplace that, for example, we have some idea what is involved in the act of walking, if only in general terms, we have no idea at all what happens during the fraction of a second when a person steps out. Photography, with its devices of slow motion and enlargement, reveals the secret (Benjamin 1931, cited in Gromala 2007, p.39).

Noting similar perceptual changes in the context of dance and somatics in conjunction with technology, Andrea Davidson reiterates Benjamin's views, emphasising the effect technology has on the relationship between 'reality' and its perception:

[i]n 1936, Walter Benjamin noted how recently discovered technologies of mechanical reproduction had begun to penetrate the new medium of film so deeply that the representation of reality had changed. Provoking new conditions and habits in the reception of art, reproduction – technology – had robbed "the original" of its "aura" and art, of its anchoring in tradition. But more importantly, it had given rise to new art forms and changes in perceptual patterns (Benjamin [1935] 1999, cited in Davidson 2013, pp.5-6).

According to Michael Taussing, a contemporary Australian anthropologist and professor at Columbia University and the European Graduate School, who critiques Western and specifically, capitalist culture<sup>88</sup> in *Mimesis and Alterity: A Particular History of the Senses*, an understanding of movement through technological intervention, 'reshap(es) in a bodily mode, the habits of perception' (1993, cited in Gromala 2007, p.39). What is interesting about this evolution is that artists' work on perception (through lighting, veils or smoke in the case of Fuller; through chronophotography for Marey; or through film and photography according to Benjamin), laid the foundation for profound changes in the perception of the moving body via technology. These changes announced the influence technology was to have for the renewal of art, its organisation and manifestations. In the context of my own research, it opened the path for experimentation that linked the moving body and technology of which my concepts of the collective body and the sound body were notably made possible through strategies of sensory-perceptual destabilisation.

### **The sixth sense of movement: the moving body and perception**

To pursue the question of changes of perception associated with the moving body, around 1906, a conceptual bridge was made that was to allow for the emergence of a sixth sense, that of movement, or the kinaesthetic, which intimately links the body, movement and perception. It was at that time that Charles Scott, a British neurophysiologist, invented the concept of proprioception. If kinesthesia refers to the sense of movement, proprioception<sup>89</sup> is more concerned with questions of posture, pressure and the internal organs. Alain Berthoz defines the kinaesthetic as the 'special

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<sup>88</sup> The polemic he raises shifts the anthropologist's object of study from that of other cultures to that of their own, and repositions the former objects of anthropological study (such as indigenous peoples) as valued critical thinkers.

<sup>89</sup> According to Cole, Dupraz and Gallagher (2000, cited by Quinz & Menicacci 2006), proprioception is the meeting place of the main considerations that are found in literature today on the subject: mechanical proprioceptive information (which is subpersonal and not conscious), proprioceptive awareness (recessive awareness of the body) and visual proprioception (Gibson), or ecological structure of perception and movement.



sense of its simultaneous handling of input from several varied sensors (of the physical body)' (Berthoz 1997). The sense of movement is constituted by the cooperation of muscular and joint proprioceptive activity, of vestibular sensors (the sense of balance) along with vision, as well as with the tactile sensors of the skin. The importance of tactile sensors in my work is highlighted in the presentation of the collective physical body and the sound body and principles of contact improvisation in Chapter 5.

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Figure 20 has been removed due to Copyright restrictions.

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Figure 20: Alain Berthoz, *Body sensors*, in Berthoz, Alain (1997) *Le sens du mouvement*

### **Interior/exterior: introduction**

Kinesthesia therefore includes proprioception. An important point this thesis wants to make here is that interest in the inner workings of the body or the 'body from within', supported by studies in the fields of somatics and neuroscience and particularly, in Godard's research, can lead to what Suquet calls a significant change in the domain of

the performing arts: 'It is this conscious and unconscious territory of mobility of the human body that is opened up for the explorations of dancers at the threshold of the twentieth century' (2006, p.412). Further, consciousness of an invisible level of organisation of expression, for example, through perception of physiological impulses, links to breath, *et caetera*, becomes the basis for a number of developments in the performing arts of the twentieth and twenty-first centuries.

Thus, sensoriality has become one of the elements that motivates the research of many choreographers. According to Aurore Després, lecturer in the aesthetics of dance at the *Université de Franche-Comté*, France, whose thesis was entitled *Travail des sensations dans la pratique de la danse contemporaine Working on Sensation in Contemporary Dance Practice*, many creative and pedagogical practices 'place "sensation" at the heart of the dancing gesture' (1998, p.6). Florence Figols<sup>90</sup>, professor at Concordia University, Montreal, also cites the work of choreographers such as Jackie Taffanel<sup>91</sup>, Trisha Brown<sup>92</sup>, Odile Duboc<sup>93</sup> and improvisers Steve Paxton<sup>94</sup>, Lisa Nelson<sup>95</sup> and Dana Reitz<sup>96</sup> amongst others, as 'us[ing] work on sensation in their artistic research' (Figols 2000, Chapter II, p.4). I share Figols' findings when she remarks that these choreographers focus their work on 'multiple intersensorial paths that act directly on the quality of movement and perception of the body (2000, Chapter II, p.4) [...]. It is once again a question of silencing part of the visible in order to bring out a whole other part of the sensitive' (2000, Chapter III, p.4). French dance critic Laurence Louppe, in her book *Poétique de la danse contemporaine* (2000), advances the opinion

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<sup>90</sup> Figols has a Masters degree in dance from the University of Quebec in Montreal entitled *Parcours sensible d'un processus de composition chorégraphique: sensation, improvisation, interprétation (Navigating the Sensitive Process of Choreographic Composition: Sensation, improvisation, interpretation)*.

<sup>91</sup> Viewed 21 November 2014, online: <http://www.compagnietaffanel.com/>

<sup>92</sup> Viewed 21 November 2014, online: <http://www.trishabrowncompany.org/>

<sup>93</sup> Viewed 21 November 2014, online: [http://www.numeridanse.tv/fr/video/1713\\_odile-duboc-centre-choregraphique-national-de-franche-comte-extrait](http://www.numeridanse.tv/fr/video/1713_odile-duboc-centre-choregraphique-national-de-franche-comte-extrait)

<sup>94</sup> Viewed 21 November 2014, online: [http://www.contactquarterly.com/contact-improvisation/about/cq\\_ciAbout.php](http://www.contactquarterly.com/contact-improvisation/about/cq_ciAbout.php)  
<http://artforum.com/words/id=31419>

<sup>95</sup> Viewed 21 November 2014, online: <http://the-live-legacy-project.com/guests/lisa-nelson/>

<sup>96</sup> Viewed 21 November 2014, online: <http://artsknowing.umn.edu/danaReitz.html>

that '[i]n fact, contemporary dance composition depends on the emergence of dynamics from matter. And not from a particular mold determined from the outside' (cited in Figols 2000, Chapter III, p.4-5). It is work that invests in the invisible. Specific attention to Brown's and Paxton's work will be given in Chapter 5 because they were an inspiration for the research presented in this thesis.

Walter Benjamin offers another perspective on the relationship between the internal and external and also on the question of sensoriality. This perspective is articulated through his concept of 'mimetic faculty' through which Benjamin establishes a perception of similarity in the world and the individual which is activated by what he calls a 'sensuous correspondence' (Benjamin [1931]1979, p.160). Here is how Gunter Gebauer and Christoph Wulf analyse this concept:

External and internal worlds are continually approximating each other and are comprehensible only in terms of this reciprocal movement, in which similarities and correspondences between inner and outer are formed. And there we arrive again at the mimetic relation: individuals make themselves similar to the outer world, changing themselves in the process; in this transformation, their perception of both outer world and self change. The result is a mimetic developmental spiral (1992, cited in Gromala 2007, p.40).

This idea is of interest for this thesis because it returns to and reinforces Merleau-Ponty's notion of a carnal body while also underscoring the importance of complementarity in the sensory chiasms. Lastly, it also can be related to the bodily transformations that technology can enable.

### **Flesh, corporality and corporeality in the light of technology**

In the context of performative arts integrating technology, the concept of the carnal body, as conceived by Merleau-Ponty (1964a) is particularly helpful. To continue on in the same vein, it is important to return to two key concepts in the study of the carnal body: corporality and corporeality (Bernard 2001). These two concepts were also

intimately linked to the development of the collective physical body and the sound body in my practical research.

The term corporeality, referring to the physical body in its materiality, is a concept that is dependent on this thesis' research on perception because it is through the destabilisation of perception that the link to corporeality was established.

Corporeality is rather a product of my approach: it stemmed from the path and process of exploring and defining the body through my practical research. Supporting the historical analysis just made, it is more specifically related to the definition given by Perrin which was presented in Section 1.3, according to which corporeality is conceived of as an opening and reflects a changing, mobile and unstable reality composed of networks of intensities and forces.

As Rieusset-Lemarié points out, '[t]he dancer's body is not fenced in by its immediacy. It is open. Its real presence is traversed by alterity, by virtuality' (2006, p.90). Continuing her analysis, she cites French choreographer Jean-Marc Matos who asks the question:

Is dance not precisely, and has it not always been, the very space of bodily encounter with the virtual in the sense of corporeality? [...] In dance, the body is staged, and therefore is a projection of the imagination and an expressive "communication" through a certain degree of "virtuality". This virtuality is both of an immaterial and unreal nature, but also of the sensitive world (Matos 1999, cited in Rieusset-Lemarié 2006, p.90).

The ideas of Rieusset Lemarié and Matos on the presence of the virtual in the physical body of the dancer are important for my analysis. This question is further developed in Section 2.6 with respect to their dynamic interrelation. Thus, the concept of corporeality is central to the thesis. It articulates links between: 1- another type of relationship of the body with technology this thesis proposes; 2- my hypothesis of the necessary shift of the body's ontology when it is in contact with technology, an idea which is referred to in Section 2.8.5; 3- an idea I propose in Chapters 4 and 5 concerning the need to develop a methodology for practical research based on paradigms that are specific to the

performing arts; and 4- theories of the invisible and flux developed by Buci-Glucksmann, Rolnik and Pitozzi which are presented in Section 2.8.

### **Activation of the carnal body through the experience of technology**

Returning to Merleau-Ponty's concept of the carnal body, it can be noted that in continuing Husserl's project, Merleau-Ponty emphasised the inherence of consciousness and of the body in the analysis of perception. He affirms that consciousness is embedded in the ambiguity of corporeality which is intentionally directed towards a world of which it is part. Merleau-Ponty thus "existentialises" the phenomenological project by considering the body not as the passive characteristic of a subject (the perceiving individual) in a relationship with an object (the perceived world), but rather as the fleshly medium which provides access to the world. He thus departs from a dualist dynamic between subject and object<sup>97</sup> and rather proposes this relationship in an integrative mode that allows for other models of reality<sup>98</sup>.

With his concept of a phenomenology of perception, Merleau-Ponty instead places corporeality at the centre of the study of experience inasmuch as corporeality constitutes an opening and an investment in the world, to others, to the self and to the incarnated individual through perception. Consisting of the reception and interpretation of information captured from the environment or from the body itself through the exteroceptive<sup>99</sup> senses and proprioception, in other words, through corporeality, perception is inextricably linked to the notion of sensation. For Merleau-Ponty, sensation informs the living relationship of the perceiver to his body and to the world. The body is a permanent condition of experience as it is through the medium of embodied perception that the individual discovers the world, others and him/herself through sensation.

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<sup>97</sup> Presented in Section 1.3.

<sup>98</sup> An issue raised in Section 2.2.

<sup>99</sup> Perception of stimuli which come from the outside.

In the context of performative arts, the performer's perceptual experience inevitably implies his/her physicality (corporality) as well as his/her corporeality, through which he/she discovers and appropriates his/her inner space and the surrounding space, or environment of the performance. According to this thesis, the concept of the carnal body was tested, embodied and revealed through my experimentation with a sensory-perceptual reconfiguration of the physical body, thus of corporality, with the subsequent modifications to corporality generating corporeality. The carnal body is the meeting place that weaves a co-belonging to the same world as Rieusset-Lemarié (2006) and Bouchard (2011) argue. The dancer's constituent flesh should thus not be considered as an obstacle, but rather as a meeting place, because, according to Merleau-Ponty (1945), 'the flesh' is the element that allows for a transduction between bodies, and it founds the very dimension of the sensitive.

In conclusion, I propose to think of the carnal body as the meeting place of the physical body and a potentiality which generates the dynamic of transformation defended in this thesis. Corporeality is a state of fusion, an alteration of forces present, and, in my artistic process, it is produced through strategies of sensory-perceptual destabilisation that concern both the collective physical body and the mediated body. These strategies provoke a reorganisation of the body's interiority, a modified interiority, which, in turn, allows for the development of the carnal body. It is from this state of instability, fragility and movement that corporeality can emerge. This idea supports my hypothesis surrounding potentiality as a new physiological interface, a notion which is presented in Section 2.8 and complemented by theories of Rolnik, Buci-Glucksmann and Pitozzi.

## 2.6 The real, the virtual, the actual

It has just been shown how the virtual is an integral part of the physical body. But before continuing, it is essential to clarify the use of the terms 'virtual', 'real' and 'actual'.

The concept of the 'virtual' is an important element in the relationship between the moving body and technology. The word comes from the medieval Latin *virtualis*, itself derived from *virtus*, strength, power (Lévy 1998). Pierre Lévy<sup>100</sup> (1998), philosopher, and professor of Sociology and Information Sciences and Communication at the University of Ottawa in Canada, bases his analysis of the virtual from the point of view of philosophy and hypermedia. He proposes the example of the seed to explain the strength and power of the virtual. The tree is virtually present in the seed. Suely Rolnik<sup>101</sup> (n.d. c) and Gilles Deleuze<sup>102</sup> (1980) approach Lévy's analogy in a similar way by giving the example of the egg and its potential for becoming a hen or a chicken. Levy goes on to argue (1998, p.13) that '[i]n philosophical rigour, the virtual is not opposed to the real, but to the actual: virtuality and actuality are two different ways of being'.

Let us now look at the term 'actual'. Actualisation is the response to a problem that is not contained in advance of what is enunciated. Actualisation is thus 'a creation, it is an invention of a form from a dynamic configuration of forces and finalities' (Levy

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<sup>100</sup> Pierre Lévy holds a Research Chair in Collective Intelligence at the University of Ottawa. He is particularly interested in virtual communities and what he calls collective intelligence via digital networks. He is noted for his writings on 'Collective Intelligence' published by *La Découverte* in 1994.

<sup>101</sup> Rolnik is a cultural critic, psychoanalyst and professor at the University of São Paulo, Brazil, where she conducts a doctoral program on contemporary subjectivity. She is co-author with Félix Guattari of *Micropolitica. Cartografias do desejo* (1986). Viewed 24 June 2009, online: <http://transform.eipcp.net/bio/rolnik>

<sup>102</sup> Gilles Deleuze (1925-1995) was a French philosopher who developed a metaphysics and philosophy of the origins of art. With Félix Guattari, he created the concept of deterritorialisation, leading to a joint critique of psychoanalysis and capitalism. Amongst his major works figure *Logique du sens* (1969) and *Mille Plateaux* (1980).

1998). If the 'virtual' is an element of power, 'a potentiality', the 'actual' is its reply, because the actual takes a form that is the response of the transformation of the invisible forces of the 'virtual'. The 'real', or 'reality', on the other hand, is 'a material effectuation, a tangible presence' (Levy 1998, p.13).

In this thesis, the conception of the 'real' does not oppose the 'virtual' (Pitozzi 2008, 2010a; Lévy 1998; Massumi 2002). The 'virtual' is already part of the 'real'; it is inscribed as a 'dimension of reality'. It is an active principle which is already at work in the real (Pitozzi 2008, 2010a). Far from being an element of dematerialisation, the 'virtual' stands as an element of transformation that can make the body evolve, even in its composition. According to Levy, the 'virtual' is a way of being productive and powerful. As in the case of my practical research, it is a tool to propel one towards different 'processes of transformation from one being to another' (Lévy 1998, p.10). This idea was important for the development of my research, because it led me to consider what Lévy identifies as 'a shift in the ontological centre of gravity of the object under consideration' (Lévy 1998, p.15). It also supports my hypothesis of an ontological shift of the body which occurs when the physical body (corporality), becoming more complex, expresses corporeality. Lastly, it led me to reexamine existing relationships and visions of the performative body and interfaces.

## **2.7 The notion of interface: a schematic history of traditional interfaces**

Attention can now be drawn to how Western thought has shaped and influenced the concept of the interface in technological devices. To introduce the subject, a brief historical overview follows.



The supremacy of the interface is proposed in the dominant discourse of media art. It has also been adopted in the field of contemporary performative stages that integrate technology. This discourse is based on a dualist and materialistic Western perspective, or a 'culture of objects' as identified by Christine Buci-Glucksmann (2003). This approach to interfaces, largely adopted in the visual arts, is today the main one adopted in the field of the performing arts.

Traditional views of the interface, situated at the intersection of technology and the human, formalise pragmatic goals of communication destined to translate and transform the language of the human body and the algorithmic language lying at the heart of computer technology (Quinz 2003a, 2003b). According to Emanuele Quinz, a theorist teaching in the Theatre Department of *Université Paris 8* and founder of *Anomos*, a French-Italian cultural association devoted to digital art, the changing concept of the interface has evolved in four major stages: 1- a first stage in which interfaces pretended to communicate but did not actually do so, rather imposing a form of opacity between the body/language and the computing machine; 2 - an evolution of the concept wherein the interface takes the form of a membrane of contact, a sensitive object that allows for a type of dialogue between objects in the physical world and the digital information system; 3- a subsequent development in which the interface becomes transparent, permitting interactivity, reversible or mutual exchange, and types of transformation; 4- and further, where the interface is defined as a skin that connects people to an environment.

I nevertheless wish to qualify Quinz's third designation because if an entire evolution in the concept of the interface was to take place afterwards, the fact remains that, even if the concept of the artificial interface is refined, it still operates according to

principles of selection and reduction that run counterpoint to the body, which can rather be compared to a complex physiological interface. At this point in its history, the interface is more of a function: one of uniting, defining and separating. It is still a system of borders (Quinz 2003a, 2003b). With Quinz's last definition, the interface retains the logic of a membrane, of a surface, allowing for a limited type of contact.

If the question of the interface is examined from the perspective of the performing arts, this thesis argues that it can only be seen as an imported concept. I rather share Quinz's conclusions about the interface as constituting a system of borders. This topic was developed previously in Section 1.6 with respect to recent examples of artists who take a post-phenomenological approach when working with the body as an interface. For my part, I could no longer use the interfaces proposed to me, but rather needed to move towards more organic solutions in the choice of an interface capable of producing the relational complexity I sought<sup>103</sup>.

### **2.7.1 Development of an aesthetic approach to the interface**

To initiate this section, a schematic history of the evolution of my approach to interfaces in the different works I have created to date is presented. Following this, the topic of aesthetics of the interface is broached that also integrates my views on the theoretical debate concerning interfaces.

In my first performance *Communion* (1995 — 2000), I developed the idea of a ritualised transition from the real body to a "synthetic" body. This transition was

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<sup>103</sup> Parallel to these understandings, and under the influence of Roy Ascott and his research group at the 'Planetary Collegium' to which we belong, we have been in touch with different fields of study on technology. Different approaches such as nanotechnology, biotechnology, neurotechnology, plant technology, Ascott's theories on the 'moist' and the 'dry', Bio-art, *et caetera* have also nourished our thinking. Even if they are not directly applicable to our research, they have radically changed our approach to technology. They notably led us to redefine the relationship of technology in our work.

expressed through a process of ritualisation of real skin towards an electronic skin (what I called an electronic scarification). Thus, *Communion* was presented as a kind of prayer, mantra, or invocation. The work speaks of the fusion of real and electronic flesh. Interactive devices to produce sound in real-time and control lighting were placed on the body of the performer (my own).



Figure 21: Isabelle Choinière, *Communion*, 1994-1999

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Figure 21 have approval to be used

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My body was equipped with a micro-controller on my lower back and a wireless transmission device placed on my right hip connected to the microcontroller. Flex sensors were applied under my armpits for continuous control of certain Sections of lighting changes and vocal transformations, and on my inner elbows and knees to trigger sound sequences. A wireless transmitting device was connected to my left hip and linked to a microphone installed on a helmet I wore. These devices created significant constraints on the gestural discourse because they reduced the possibility of movement. For example, I had to create sharp movements that were related to the joints because I had to 'bend' the

flex sensors so they would send data and MIDI<sup>104</sup> signals. Moreover, the microcontroller was on my back, so I could not go to the floor or lie down.

In my second creation, *La Démence des Anges* (1999 — 2005), I wanted to explore the concepts of alteration or a mutation of the body when it is projected inside digital networks. The performance involved a telematic duo that encompassed two spaces that might potentially be thousands of kilometres away from each other. Devices allowing for interactivity (sound in real-time but in a more complex way than in *Communion*) were placed on the arms of the performers (myself and another dancer), with two wireless transmitters on the right and one on the left arm.



Figure 22: Isabelle Choinière, *La démence des anges*, 1999-2005

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Figure 22 have approval to be used

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The sensors were developed by the technical team and consisted of two microphones that were worn on the fingertips of each hand, with a microphone for the voice. The

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<sup>104</sup> MIDI (abbreviation for Musical Instrument Digital Interface) is a technical standard that describes a protocol, digital interface and connectors and allows a wide variety of electronic musical instruments, computers and other related devices to connect and communicate with one another. A single MIDI link can carry up to sixteen channels of information, each of which can be routed to a separate device. MIDI carries event messages that specify notation, pitch and velocity, control signals for parameters such as volume, vibrato, audio panning, cues, and clock signals that set and synchronize tempo between multiple devices.

microphones on the fingers sent data related to gesture (the amount of air passing through the microphones was interpreted by the Max software. For more technical details, refer to the technical description in Appendix 8.3.1). This interface created fewer constraints than in my first work, because it allowed us to create subtler gestures and actions with different dynamics. Also, the microphones were used, amongst other things, to generate sound feedback, with our movement controlling notes dependent on our position in space. The live image was captured by a video conferencing system and broadcast in each space as images of a virtual partner of each performer. However, the lighting and video design were extremely restrictive and confined to the performers to very reduced spaces or even requiring them to stay on the spot at times in order to create the desired visual effects or for the organization of the encounter of the body of the performer with her virtual partner retransmitted on a screen system in her space (and *vice versa*, because the same process was broadcast simultaneously in each place with different audiences).

In the third creation entitled *Meat Paradoxe* (Studies # 2 and # 3 in this thesis), the performers are almost naked. They wear a wireless sound transmission system and a microphone hidden under turbans. In the last phase of exploration — Study #3 — analog sound or signals are routed to an octophonic sound system projected through speakers placed around the outside of the stage space. Sound is processed and spatialised in real-time. This staging gives the dancers almost total freedom of movement within a stage space six meters wide.

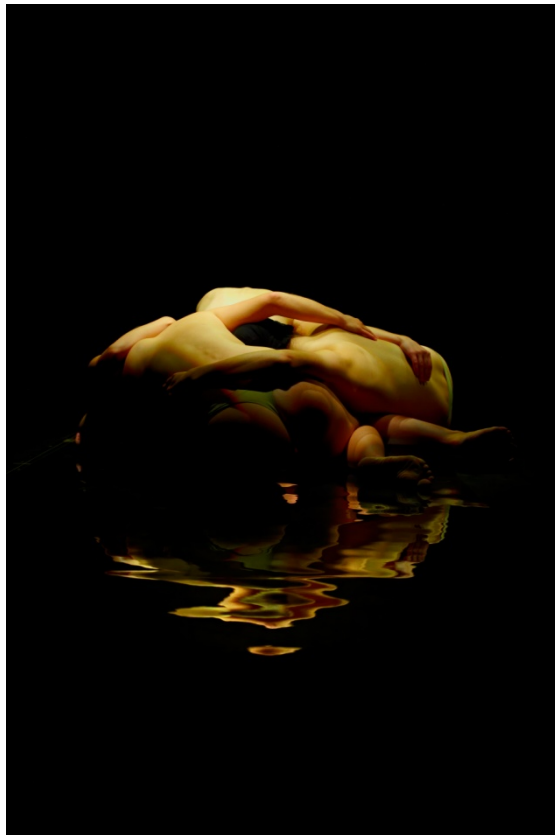


Figure 23: Isabelle Choinière, Study #3, 2008

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Figure 23 have approval to be used

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These works were all determined by a common imperative: that of working with an interface — or a concept for an interface — that would allow me to invest in a particular aesthetic dimension. For my doctoral research, the aesthetic dimension, is based on original definitions of the aesthetic outlined by the Greeks, prioritising a form of sensory and perceptual understanding and introducing another way of sensing and perceiving the world and thus, of perceiving reality. The aesthetic development involved was thus one that was produced by sensation and our ability to perceive. This dynamic was to affect my approach to the work and way of thinking about it and would ultimately affect its organisation and the final shape that would emerge. As such, the aesthetic dimension was the motor for this creation. It was also what was to lead me to working with a real-time interface. This understanding emerged as a consequence of research concerning the modification of corporeality which I had personally been able to experience and work on with different dancers.

The need to develop a different relationship to an interface that could enrich corporeality and experiential awareness came from this experimentation. I wanted to avoid the kind of instrumentalisation to which performers are so often submitted with technology. Creative work reflecting complexity, in my third research-creation involving five bodies in constant contact — the collective body — also demanded that I avoid a causal relationship with technology. The relationship to which I refer is the relation of cause and effect that is found mainly in the relationship between moving body and the generation of sound in real-time: a one-to-one relationship between the performer and sound or between the performer and image. This happens when the performer moves and triggers a short sound, a prerecorded (triggered) sequence or acts upon one component of the sound (for example, he/she raises an arm and produces a sound which may vary in volume, pitch, *et caetera*). He/she provokes a type of technological action. There is no feedback involved that might influence the performer or allow him/her to evolve in his/her corporality and corporeality.

I was therefore looking for an interface that could act upon sensory-perceptual organisation, or the kinaesthetic and internal organisation of the body. This approach to the interface was useful in my process because it gave audio feedback to the body, and was thus perceived physiologically by the performers. Thanks to feedback in real-time, perception becomes dilated, more complex and transforms itself. This relationship was interesting, because it allowed me to deepen the aesthetic dimension of my work. When aligned with the aims of my research, this approach allowed me to develop multiple variations of sensory understanding as well as variations in states of perception. The relationship with technology, as I develop it, redefines modes of perception through the phenomenological approach I take in conjunction with strategies of destabilisation that

incorporate sound production and return (feedback). As noted above, technology influences the ways we sense the body because the inner body becomes mediated. By changing the body's internal bearings, I thereby changed my way of thinking about and organising the work. In working in this way, I introduced a new way of sensing and perceiving the world, of understanding and influencing, or even creating, a new model of reality.

If I chose to work with an interface that generates sound rather than images — as the majority of artists in the field do — it is because working with sound allowed me to build a more direct and clearer relationship to the interiority of the body. Sound has a direct influence on the dancer's physicality. It can be linked to breath, to all dynamics of the kinaesthetic, to the production of gesture, weight management, *et caetera*. As mentioned in Section 1.8.4 "The somatic and its principle", I used breath in my exploratory process to create awareness (for the dancer) of the interiority of his/her body. Firstly, the dancer hears the sound of his/her breath resonating inside the body. I then used this element to develop the dancer's concentration as a form of introspection. I further associated the development of small movements with the dancers' breathing and after, with bigger movements related to the latter, so they could perform movement with a greater awareness of sensation. In this phase of exploration, breath was entirely joined to the physical gesture being explored. Later on in the creative process, when mediation was added, breath and gesture were extended into space-time in the form of sounds and vibrations of the collective sound body. Details of this process are analysed later in the thesis in Section 5.3 "Analysis of the Performance: introduction" and in Section 5.3.3.2. "The mediated collective body: definition and principle of construction of the sound body as part of the collective body". Thus, sound, through its vibration, penetrates the dancer's body, facilitating changes in his/her range of sensations and perceptions. These



changes can influence and destabilise the dancer. For me, sound became a strong aesthetic strategy because it continually changes sensory understanding of the internal and external world with which the dancer (and audience) is in contact. The dancer can integrate this new information in multiple ways and manipulate it directly. It also constitutes a physiological strategy because perceptual and sensory feedback is in constant fluctuation.

One of the goals of my practical research was to reveal a different dimension of sensoriality and introduce new artistic perspectives. Through strategies that destabilise perception, I desired to go deeper and deeper into the flesh in order to explore what Rieusset-Lemarié has called 'changes of bodily states' (Rieusset-Lemarié 2006) and also, to propose risk-taking strategies that can lead to new sensorial information. Risk-taking strategies are elements of my exploratory process that also characterise my artistic process. In Chapter 1, I describe these strategies in Section 1.8.2 "Empathy and intersubjectivity: a strategy of learning and recognition" and in Chapter 5, especially Section 5.3.3 "Sensorial and perceptual destabilisation as a learning process". The destabilisation of sensory and perceptual references is the main feature of these risk-taking strategies.

When I use the word 'risk' or 'to put at risk', I refer to the definition and meaning given by Celine Roux (2007) introduced in Section 1.5 in a sub-section entitled "The performative attitude as a principle of risk-taking". That is to say, when experimentation (in an artistic practice or engaged action) submerges and involves the very existence of the performer (and here, the audience as well). The performer (and spectator, in the case of my research) is not simply involved in an act of representation, 'but rather engages fully in an act of risk involving his/her corporeality. It is his/her own sensations, not

those of a character that are involved. [This process] stages the individual who exhibits, organises and executes actions affecting [and destabilising] his/her own body (Roux 2007, p.17). This strategy was applied to deepen work on corporality as well as to create the state of fragility and dissolution of psycho-corporal borders of which Suely Rolnik has spoken and which was introduced in Section 2.8 in a sub-section entitled "Suely Rolnik: the notion of a dissolution of psycho-corporal borders'. It affects both the performer and spectator but at different levels of intensity.

In Section 5.3.3, I identify the main strategies of sensory and perceptual destabilisation - or risk-taking strategies - such as "Proximity as a strategy of dehierarchisation" (in Section 5.3.3.1). In Section 5.3.3.2 "The team, kinesthetic and choreographic choices", I present the development of bodily spasms as a strategy of empathy and intercorporality, and in Section 5.3.3.4 on sound, I present points about "Intrasensorial strategy for the dancer - sensorial and perceptual reorganisation and concept of presence" and "The issue of breath stemming from collective movements as an immersive empathic strategy". These points describe factors of destabilisation that cause and constitute elements of risk, of which I speak as being primarily connected with the performer's body, and as a direct result of his/her being immersed in an environment that is mediated. In addition, I used complementary and other non-technological elements to organize the collective body (*e.g.*, 'dehierarchisation', the proximity of performers amongst themselves and as a group with the audience, and the dynamic of body spasms). These points are described in Chapter 5 in the sections and sub-sections mentioned above. The audience, meanwhile, is also subject to these strategies of sensory and perceptual destabilisation because it is also immersed in an environment that is mediated, and in parallel, experiences the effect of empathy with the dancers. These last strategies are presented in Chapter 5 in Section 5.3.3.1 "Proximity as

a strategy of dehierarchisation", Section 5.3.3.2 "The strategy of bodily spasms – toward a strategy of empathy and intercorporeality" and Section 5.3.3.4 "Intercorporeality: evidence and a brief theoretical analysis on the results of the integration process". If my work is not political, I was aware that its interdisciplinary nature and positioning facing established codes, trespasses and breaks away from existing codes, thus constituting a certain form of "protest".

The interface is often been spoken about in terms of technological tools. My research however, initiates the idea that the interface can extend to the physical body and become a part of it. The potentiality present in the concept of the virtual (and thus of the real body) is, in my process, part of the concept of the interface. Let us now look at different theories on this subject that can be integrated within this conceptual framework.

## **2.8 A presentation of various theories on the interface and potentiality**

The approach to the interface as a surface allowing for communication is extremely problematic. On the other hand, the notion of corporeality as an opening to a world of 'vibratory intersubjectivity' or intercorporeality, which allows for a type of physiological communication, is a concept that requires a 'dissolution of surface'. As the traditional approach to the interface was no longer sufficient for me, it was imperative, in the framework of this thesis, to find a concept of the interface capable of opening onto the world in the complexity of its many relationships.

To explain the process involved, it is necessary to look at the central notion of potentiality introduced in Section 2.6 on the 'real', the 'virtual' and the 'actual'. This will be the starting point and theoretical node to be developed in this section. Through the

concept of potentiality, let us examine the development of the concept of the interface to which it is related.

### 2.8.1 The interval

A more recent approach to the notion of the interface is presented by Christine Buci-Glucksmann (2001; 2003). Buci-Glucksmann is a French philosopher and Professor *Emeritus* at *Université Paris 8*. Her work focuses on the aesthetics of the Baroque, Japan, and computer art. In her analysis of the interface, she positions herself from the point of view of a theorist who focuses principally on architecture, along with other references made to the Japanese performing arts, for example, to actors' bodies in *Nôh*, the traditional theatre of Japan, which she explains as '[...] transitory media on which ephemeral encounters take place' (2001, p.175) She advances the idea of a current transition from a 'culture of objects' to a 'culture of flux', basing her idea on the concept of 'vital flux' as developed in Eastern thought and also remarking that flux challenges old boundaries between the body and mind. If the idea of flux is not new to media art, the interest of Buci-Glucksmann's proposition lies in the fact that she associates it with the Japanese concept of *Mâ* and the interval. *Mâ* is:

[...] both the interval, the void and spacing, "between" in the strongest sense of the word. It separates, connects, and installs breath, fluctuation and incompleteness, that engenders a relationship of time to infinity so typical in Japan [...] *Mâ* is the very form of time. Time that is uncontrolled and uncontrollable (2001, p. 36-37).

According to Buci-Glucksmann, the interval is the equivalent of *Mâ* in the Japanese sense of the term (2003, p.89). It expresses the latent potentiality already present within the virtual, with the virtual being part of the real and the body. She further defines the concepts of *Mâ* and the interval as constituting an unstable space, a space in which boundaries are broken down: '[...] in opposition to any form of thought in the West, it is fullness, purpose and what must be achieved'. It was in her travels to China and Japan that she encountered,

[...] the idea that the virtual was the actualisation of a force and therefore that the virtual lay in the power of form and that it was necessary to put an end to a kind of blindness with respect to the transitional, the microscopic, the transition in the arts (Buci-Glucksmann 2003)<sup>105</sup>.

Buci-Glucksmann goes on to say that the concept of the interface is principally a technological concept and that a broader conception of the interface should include the virtual (2003). The notions of flux and of the transitional echo my strategies of destabilising components of the somatic<sup>106</sup> that led me to consider and create, what Hubert Godard calls 'an ever-fluctuating real' (Kuypers 2006, p.62). The idea of a 'fluctuating real' also reflects Ascott's definition of change as, '[...] a vital part of the total aesthetic experience of the participant' (2003, p.150).

### **An aesthetic model based on the approach of *aesthesis***

As my creative process is based on tactile, kinaesthetic and experiential references, and an interest in the transformation of the body, it is possible to conclude that the results of this experimentation, as well as my way of approaching the interface, had significant impact on its aesthetic component. The aesthetic model I developed, as well as the performative form that emerged, were based on an approach of *aesthesis*, (from the Greek *aisthêtikos*) as '[...] the ability to perceive or understand' and *aisthêsis* as 'sensation' (Darriulat 2006; Buci-Glucksmann 2003). Working on sensation and perception, led me, as an artist in the performing arts, to the same conclusions as Buci-Glucksmann with respect to architecture as to how sensation and perception might lead to aesthetic enhancement. Concretely, my research led to the conception and testing of a new aesthetic paradigm through the proposition and creation of a physical and mediated collective body. This other ontological model of the body is also rooted in the development of an open approach to the notion of time and space.

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<sup>105</sup> This last idea is also expressed by Lévy (1998) and Kuriyama (1999).

<sup>106</sup> Tested in this research study that were introduced in Section 1.8 and presented in greater detail in Chapter 5.

### 2.8.2 Suely Rolnik: the notion of a dissolution of psycho-corporal borders

As a complement to the theories of Buci-Glucksmann, my doctoral research took into consideration another perspective proposed by Suely Rolnik<sup>107</sup>, a close collaborator of Deleuze and Guattari, who is particularly interested in the question of surface in the performative context. In a lecture Rolnik gave in São Paulo, Brazil, in 2006, where I was invited as co-guest speaker, she spoke of technology as a catalyst of a sensory renewal through the acceleration electronic media operate and the permanent destabilisation they create due to the fact that through these media, several universes have come closer together (Rolnik 'Figures nouvelles du chaos' n.d. b). What ensues is a constant reorganisation of the senses amongst themselves – our sensorial mappings – in which we find ourselves in an exacerbated state of being, of life, of 'presence'; a state of openness and sensory and perceptual awareness that Rolnik calls 'the state of fragility' — a state that results from these reorganisations — and which becomes the condition of the experiential.

This state of fragility is essential in creating a form of communication Rolnik defines as 'vibratory' or 'resonating' (Rolnik 'L'hybride de Lygia Clark' n.d. c). This form of communication resembles the Japanese concept of *Mâ* as a moving time-space, an empty space to be inhabited, a possibility. For the Japanese, all potentiality resides in emptiness, that of becoming. For Suely Rolnik, potentiality resides in a state of fragility, one of reciprocal psycho-corporal resonance. In the performing arts, this state of fragility, concerning both the bodies of performers and spectators, provokes a 'dissolution of the psycho-corporal border' or a dissolution of surface. It is of note that while Rolnik speaks of the psycho-corporal, in my approach, the psycho-corporal is

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<sup>107</sup> Suely Rolnik worked with Guattari whose method was inspired by training with Lacan (2001) during research conducted at the experimental psychiatric clinic La Borde. This method did away with the classical pair Analyst/analysand to engage in open confrontation in group therapy. In contrast to the Freudian school of individual analysis, they studied the dynamics of subjects in complex interaction. This led to a broader philosophical exploration and political engagement. Guattari also explored subjectivity: '[h]ow to produce it, collect it, enrich it and reinvent it permanently in order to make it compatible with a mutant universe of values'.  
Viewed 2 August 2014, online: <http://www.egs.edu/library/felix-guattari/biography/>  
Viewed 2 August 2014, online: <http://libertaire.free.fr/Guattari16.html>

integrated with the notion of the bodily. I use the term psycho-corporal to speak of this idea when not making specific reference to Rolnik's theories as a psychoanalyst.

In turn, the dissolution of surface creates intersubjectivity thanks to the development of psycho-corporal links which Rolnik calls 'vibratory'. This process involves an inter-communication and the organisation of a collective vibratory body that can lead to another type of communicational paradigm which, in my project, led to intercorporeality of an interfaced kind. It also resonates with this thesis' proposal of the interface in its relation to the transitional and the interval and as a key activator of a latent potentiality already present within the virtual: a physicality in transformation.

Further, it leads to the possibility of a new and expanded concept of the body (what Bernard calls corporeality and my research extends to a concept of intercorporeality) which is activated through a revaluation and reintegration of the body's specific intelligence, a topic broached in Section 1.8. All these approaches were tested and revealed in my practical research involving the production of sound in real-time and the creation of a collective physical and mediated body.

### **Conclusions on the question of the dissolution of surface**

The space between performers, and between performers and an audience, is thus not empty, but rather filled with a vibration of communication. To enter this vibratory communication, performers and spectators must accept being in a state of fragility, which also constitutes a state of psycho-physical openness and personal risk echoing that of the performative attitude<sup>108</sup>. This state of fragility, effectuating a form of 'recognition' between bodies, is a condition of the dissolution of the psycho-corporal barrier that, can be explained, in part, by the phenomenon of 'mirror neurons' proposed

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<sup>108</sup> Presented in Section 1.5.1.

by Rizzolatti (2005), Gallese (n.d., 2006, 2007), Jeffers (2009) and Calvo-Merino (2005), as well as by the phenomenon of empathy (Berthoz & Jorland 2004).

If this thesis focuses on Rolnik's theories, it is because the neuroscientific explanations advanced by Berthoz and Rizzolatti seem inadequate for explaining the phenomena of learning<sup>109</sup> and communication. The resulting state, of recognition (amongst performers and also between performers and spectators), is of an empathic nature and generates intercorporeality. My research proposes that concept of the carnal mediated collective body corresponds to an ontological model which reflects this intercorporeality. For my research, Rolnik brought the missing link, that of the psycho-physical state which encompasses both performer and audience, allowing for intersubjectivity. Rolnik neither speaks of the interface nor of the interval, but rather of the dissolution of psycho-corporal borders and the state of destabilisation. For Rolnik, the concept of the interval might translate as a space of psycho-corporeal communication. My research links a staging of intersubjectivity of a physiological and vibratory nature with an ontological shift of the body through the concept of corporeality. In other words, this type of intersubjectivity, based on a state of fragility, can, according to my research, generate intercorporeality, supported also by the neurophysiological evidence presented earlier in this chapter. The definition of intercorporeality is further analysed in the presentation of experiments for my practical research in Chapter 5.

While Rolnik and Buci-Glucksmann do not speak of the same things, nor from the same point of view, their ideas are nevertheless complementary in the support of the

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<sup>109</sup> The phenomenon of learning is discussed in detail in Sections 1.8.2 "Empathy and intersubjectivity: a strategy of learning and recognition"; 1.8.3 "Principle of the body's self-organisation"; 1.8.4 "Somatic and its principles"; and in Chapter 4, Section 4.3.1 "The approach with performers" and in Chapter 5, Section 5.3.3.2 "The team and kinaesthetic and choreographic choices".



hypotheses presented in this thesis. Their common ground lies in a conception of space, as an unstable space where borders can break down. This quality of instability is required to entertain a relationship with a potentiality that is already present in the body and that can be stimulated in different ways. Their theories interested me in their complementarity, as this thesis sought to identify the relationship and understand the influence and incidence on learning that exists between the process involved of the performer's transmission and an audience's reception of such work.

### **2.8.3 Corporeal potentiality as proposed in the relationship with technology**

On the topic of potentiality, Enrico Pitozzi<sup>110</sup> has developed a particular idea of a corporal potentiality. He notably speaks of a latent, present, corporal potentiality that is manifested with different levels of intensity or, in his words, gradations (Pitozzi 2008, 2010a). This potentiality is ready to be stimulated and for Pitozzi, also constitutes the basis of the interval in the sense that Buci-Glucksmann understands the term. Technologies employed in the performing arts are perceived by the performing body as a physicality, such as a vibration running through the body. They oblige the body (the performers) to constantly reorganise itself on a sensory and perceptual level. For Pitozzi, this reorganisation is of prime interest for the renewal and creation of gesture in the sense that Bernard (2001) or Quinz and Menicacci (2006) understand it.

For my research, and beyond a question of inventing gesture, these reflections led to the possibility of alternative performative behaviours. This subject is specifically addressed in Section 2.8.4. Additionally, owing to the constant sensory-perceptual reorganisation observed in my experiments with the dancers, the performer (and the spectator in the context of the destabilisation mentioned previously in this chapter),

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<sup>110</sup> Pitozzi is a theorist currently teaching forms of the multimodal stage in the Department of Music and Performance at the University of Bologna, Italy.

develops new kinaesthetic links that he/she must appropriate, develop, and learn to reproduce while being ready to constantly change reference points in a universe that is constantly evolving. This environment acts on the reactivity of the body and requires qualities of attention, integration, appropriation and transformation characteristic of the dynamic transformation introduced in Section 1.5.1. On the question of corporal reorganisation, and even if Pitozzi approaches it from a different angle, both Rolnik and Pitozzi essentially share the same conclusions.

Pitozzi speaks of technologies that directly engage the body of the performer, renewing his/her perceptual organisation and thus generating new gestural scores. Here, technology is lived as exteroception (coming from the outside as in an environment) while being registered by the body in a physiological way (proprioception). As previously mentioned in Section 2.8.2, for Rolnik, technology is a catalyst of a sensory renewal through the way it, and particularly electronic media, accelerate a permanent destabilisation in contemporary societies through bringing different universes together. For Rolnik, potentiality lies in the state of fragility, one of mutual psycho-corporal resonance. Enabling this potentiality creates intercommunication and the organisation of a vibratory collective body. This thesis defines this state as an intercorporeality of an interfaced nature.

#### **2.8.4 Real-time**

Before going further, the issue of real-time must be addressed because it was a crucial factor in elaborating the relationship my practical research sought to develop between the physical and mediated body, as well as for developing other types of performative presence.

## **The complexification of self**

If I speak in terms of my practice on a physical level, real-time, here, linked to audio feedback I experimented with, it was a central element in the elaboration of different performative behaviours I tested, including presence or the process of performative projection. Real-time produces a complexity of the physical body, or corporeality, as the interiority of the body becomes mediated (sound which is emitted and perceived in real-time). The physical body no longer does one single thing at a time; it does things simultaneously. It adds and integrates other physical capacities affecting corporality, which thereby changes, and thus develops, different types of corporeality. The consequence of the development of corporeality was, the development of other aesthetic, cognitive and communicational paradigms, and experimentation with other types of presences tested in my practical research. These types of presence reflect this evolution of corporeality that is in part due to the effect of technological environments. I call them 'molecularisation' and 'diffraction'. Concrete examples of the process and forms or structures these developments of corporeality generate will be presented later on in this section and in Chapter 5.

## **Theoretical debates on real-time and time-space**

To connect my perspective with current theoretical debates on real-time, the views of Pierre Levy and Anne Cauquelin can be considered. According to Lévy (1998), the notion of time-space must be placed in a new context: one which technology has brought. Lévy sheds light on the plurality of times and spaces that various means of transportation or telecommunications can bring. A variety of types of spatialisation and duration are created because, as he explains, these means are such that we have the impression that spaces which were once far away are closer now. People who do not use these means still have the impression that these spaces are distant. He thus argues that

this creates 'a situation where different systems of proximity, several spaces coexist' (Lévy 1998, p.20). Through the use of different systems of communication (voice, recordings, digital networks, *et caetera*) different rhythms and speeds are constructed.

We live in time-spaces that are mutant. According to Lévy:

[e]ach new arrangement, each technosocial 'machine' adds a time-space, a special mapping a singular music with an elastic and complicated imbrication where spaces overlap, get deformed and connect, where durations are opposed, interfere and respond to one another. The contemporary proliferation of spaces makes us nomads of a new style: instead of following wandering lines and migration within a given range, we jump from one network to another, from one system of proximity to another. Spaces are transformed and split under our feet, forcing us to become heterogeneous. (Lévy 1998, p.20)

Levy also points out that this phenomenon is not new in itself. It was not initiated by humans, but is already present in unicellular beings, mammals, *et caetera*. Every form of life invents its world and with this world, a space and time of its own. Means of transportation and telecommunications are an example of this evolution and show us that the possibilities of living beings are multiplying.

My research also took into account perspectives offered by Anne Cauquelin (2006) who presents real-time as 'the presence of the object *bric et nunc* for the perceiving subject' (2006, p.98). As a consequence, she notes that, 'real-time thus reflects the instantaneous connection of a transmission and reception'. In my view, Cauquelin's analysis poses a problem because she bases it on the reaction of a technological device to actions a user makes, as in the case of certain interactive installations. As my research points to a modification of the physical body and sensory-perceptual reorganisation that technology as exteroception brings, I can only note that my analytical bases are incompatible with hers.

On the contrary, Levy offers a perspective that is broader, placing the human being within a more comprehensive system in which technologies change the relationship of time-space within social and techno-urban environments. I share this

point of view, but apply it in the context of the performative body. In Chapter 5, examples of destabilisation strategies based on the awareness and manipulation of other approaches to time-space are presented with respect to practical research for this thesis.

### **The evolution of different types of stage presence**

If the issue of real-time was raised in the last sections, it is because it was fundamental in the development of other types of performative presence that I experimented with in my practical research for this thesis. I firstly conducted these experiments on my own body as a basis and reference for directing and training dancers with whom I worked in Studies # 2 and # 3. This research is presented in Chapter 5.

The question of stage presence, or performative projection, is far too vast a topic to be discussed in detail in this thesis although it was briefly introduced in Section 1.7. My involvement, from 2005 until the present, in the research group *Performativité et Effets de présence* at the *Université du Québec à Montréal* directed by Louise Poissant, Doctor of Philosophy and Dean of the Faculty of Arts at *Université du Québec à Montréal* and Josette Féral, professor at *Université du Québec à Montréal* specialising in theatre performance, led me to understand the complexity and expansiveness of the subject. I have therefore chosen to present but a few of the more important elements and positions developed in the seminar with respect to the field of new performative contemporary stages integrating technology. They are useful in the development and defense of the hypotheses this thesis proposes. To begin, let me briefly recall in summary, the positions of Merleau-Ponty, Bernard and Berthoz.

For Merleau-Ponty, the question of presence is anchored in the third parasensorial chiasm. Transposing his theory to the realm of performative action, the

performer imagines and projects his/her anatomy in space before acting in the physical world, but he/she is engaged with sensation before operating this projection.

Michel Bernard (1993, 2001) interprets the third chiasm's notion of enunciation and assimilates it with language. This thesis does not share this point of view and rather takes into account Merleau-Ponty's interpretation of the third parasensory chiasm. I distance myself from the relationship Bernard (1993, 2001) constructs with language and focus on the experiential aspect of this projection through sensation such as Merleau-Ponty understands it.

Berthoz, who worked with the concept of empathy, also proposed the idea of *anticipation* as a form of simulation and an essential characteristic of the active functioning of the senses, even allowing for a simulation of movement<sup>111</sup>. Anticipation can also be considered a basis for the process of performative projection. Berthoz goes further, noting that because the brain predicts action, it simulates sensations. Unlike Bernard's (2001) sensory simulacra, or the production of new sensations, which he also calls 'fiction' emerging from the individual's imagination, Berthoz's simulation, which he calls 'prediction' corresponds to simulation by anticipation of a known sensation. Berthoz also goes on to say that at the same time the brain produces a mental simulation of movement, it predicts the state of sensory receptors. This would explain, at least in part, the effect on spectators of stage action and projection that are produced by performers. Berthoz thus confirms Merleau-Ponty's intuitions. I agree with their findings and apply them in the specific context of the performing arts.

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<sup>111</sup> I introduce his theories here in a succinct way, principally as a complement to those of Merleau-Ponty.

Let us now look at the views of two research groups studying these issues: the *Performativité et effets de présence*<sup>112</sup> at the *Université du Québec à Montréal* and the *Presence Project*<sup>113</sup> at the *Centre for Intermedia*, Exeter University, in the United Kingdom.

The position of the research group *Performativité et Effets de présence* directed by Josette Feral (2007), is mainly based on arguments of an anthropomorphic nature that define presence as the physical body in immediate space and 'the effect of presence' as being linked to the absence of the physical body. The 'effect of presence' as defined by Feral (2007) is a 'feeling of the presence of a body — generally, the living body, but can also concern objects — through which one has the impression of being there although fully and rationally knowing one is not there'<sup>114</sup>. Feral thus defines 'presence' in connection with the notion of absence.

*The Presence Project* at the *Centre for Intermedia*, University of Exeter, led by Gabriella Giannachi (Exeter University), Nick Kaye (Exeter University), Mel Slater (University College, London) and Michael Shanks (Stanford University) has explored the notion of presence across a wide-range of practices and technologies of presence through interdisciplinary investigations. If this research group mainly reflects on works in media arts, they have nevertheless contributed to reflection on presence in the field of the performing arts, exploring, amongst other things, the relationship between the body and technology in order to understand the multiple levels of presence a real body can have. One of their positions is to approach the phenomenon of presence with respect to relations that emerge from contact with mediated forms and signs. Another investigation explores the form of presence that emerges from the psychological and

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<sup>112</sup> Viewed 17 August 2013, online: <http://www.effetsdepresence.uqam.ca/Page/mandat.aspx>

<sup>113</sup> Viewed 8 August 2013, online: <http://presence.stanford.edu:3455/Collaboratory/9>

<sup>114</sup> Conference presented at *Intermédialité, théâtralité, (re)-présentation et nouveaux médias/Intermediality, Theatricality, Performance, (Re)-presentation and the New Media*, 9th International Symposium of Centre de recherche sur l'intermédialité et du LANTISS, University of Montreal, Quebec, Canada, 26 May 2007.

perceptual reactions of the individual who is subject to these mediations (Kaye & Giannachi 2011). Presence, for them, is linked to a notion of altered perception.

This thesis also takes into consideration the research of Audrey-Anne Bouchard (2011), who notably studied my creation *La Démence des anges* and two other works of performative art incorporating technology in the context of her Masters 2, an *Erasmus Mundus* Study of the Performing Arts program<sup>115</sup>. Analysing *La Démence des anges*, Bouchard advances the idea that the projected body (which, in this work, is transmitted in real-time via a videoconferencing system), as it reflects and transforms the sensory experience of the performer, becomes tangible for him/her. Thus, the projected body is inscribed in the reality<sup>116</sup> of the performer's experience. While Bouchard speaks of the video body projected in real-time in *La Démence des anges*, in a telephone interview following a presentation of Study # 3 of my practical doctoral research, she expressed the fact that in her view, the phenomenon is the same concerning the mediated sound body. On this point, I share her view and additional evidence provided in Chapter 5 confirms her findings. Reinforcing this point, Bouchard cites Rieusset-Lemarié who proposes that, '[...] in the performative dialogue woven by the dancing body and digital art, the contributions of the body to technology greatly exceed those of the flesh' (Rieusset-Lemarié 2006, cited in Bouchard 2011). Isabelle Rieusset-Lemarié also notes that, 'To claim dance can be reduced to (the) weight of the body in order to make up for the absence of flesh in digital arts can be taken as a misunderstanding'<sup>117</sup>. The findings of this thesis on this topic echo those of Rieusset-Lemarié and Bouchard.

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<sup>115</sup> After completing basic training in dance, Bouchard studied in the Department of Theatre at Concordia University, Montreal, where she specialised in lighting design for the performing arts.

<sup>116</sup> It should be reminded that the conception of the 'real' in this thesis is not opposed with the 'virtual' (Pitozzi 2008, 2010a; Levy 1998; Massumi 2002).

<sup>117</sup> A misunderstanding which is caused in part through the dichotomy material / immaterial.



## Molecularisation



Figure 24: Isabelle Choinière, *Communion* (molecularisation), 1994-1999

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Figure 24 have approval to be used

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In the practical work for this thesis, technology is lived as an environment. It produces the sensation of a dilated body. In its quality of openness, it resonates with Perrin's (2006) definition of corporeality, as challenging classical approaches to the body imbued with a classical ontology. In my project, the body is no longer a closed reality, but is rather a crossroad of influences and relationships. It is a moving reality made up of networks of intensities and forces whose potentiality is also one of its expressions. This interpretation of technology as an environment was initiated by work on what I call 'molecularisation' in my first work *Communion*<sup>118</sup>, a performance exploring new modes of performative projection.

The form of presence I call molecularisation constitutes an evolution of the process of projection<sup>119</sup>. It is equivalent to the sensation of the body in a state of dilation<sup>120</sup>. The performer imagines and feels the molecules of his/her body as being dispersed in space and forming a body which I identify as expanded or dilated. This impression corresponds to Taoist theories mentioned previously in this thesis and to Buci-Glucksmann's theory of the interval based on the Japanese concept of *Mâ*. The

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<sup>118</sup> First version created in 1994 and last modified in 1999.

<sup>119</sup> In training during my pre-university and university education, the mode of performative projection I was taught was a projection towards the audience, which involved mainly the head and the torso.

<sup>120</sup> *Communion* – molecularisation. Performed by Isabelle Choinière, viewed 18 December 2013, online: [http://www.youtube.com/watch?v=mpoM-oYZYGg&feature=em-upload\\_owner](http://www.youtube.com/watch?v=mpoM-oYZYGg&feature=em-upload_owner)

visual image that best describes this feeling is one of an immersive video environment composed of electronic pixels. It corresponds to a state of presence I experienced and developed as a choreographer-dancer while immersed in an environment of video pixels for months while creating my first work *Communion*.

When referring to the notion of molecularisation, I would like to clarify that it is totally different to Deleuze and Guattari's (1980) concept of molecularisation. The phenomenon of molecularisation I developed is based on the experiential. This concept is rooted in a cognitive process related to practices of the body, a form of cognition this thesis defends. In this sense, the principle of molecularisation conceived by Deleuze is fundamentally different because it is based on a more intellectual understanding of the world. According to Sasso and Villani (2003, p.354-355), 'Deleuze's revolution in philosophy is based on the molecularisation of all subjects and all objects, who become singularities of emission and fog'.

## Diffraction

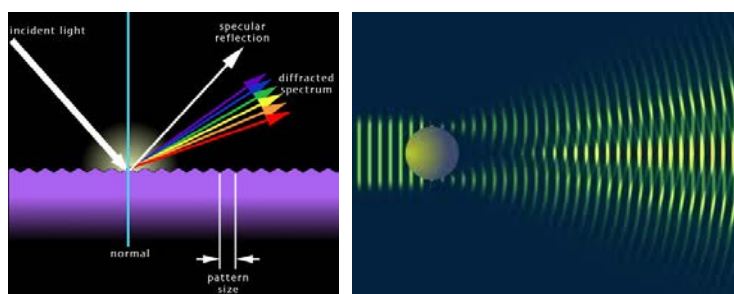


Figure 24: Diffraction<sup>121</sup>

Figure 24 have approval to be used

The second type of performative projection this thesis proposes is one of the body in a state of diffraction. Following the exploration of real-time projections of the body in a remote site for *La Démence des anges*, the question of mediated presence was

<sup>121</sup> Viewed 24 January 2012, online: <http://www.aucoeurdelaplanete.com/Terms-Astronomie/Diffraction.html>  
<http://www.google.ca/search?q=image+diffraction&hl=fr&client=firefox-a&hs=NKU&rls=org.mozilla:fr:official&prmd=imvns&tbm=isch&tbo=u&source=univ&sa=X&ei=WCIfT-X0BNCH0QG5w6EG&ved=0CDoQsAQ&biw=1011&bih=836>

further pursued in my research for this thesis in terms of developing a sound body in real-time. This research led to another modification of the process of projection, that of the sensation of the body in a state of diffraction. To explain this phenomenon, it could be said that the physical body becomes more complex, and a mediated body emanates from it as a result. A change in the state of presence occurs as an evolution of performative projection thanks to the network technologies used in *La Démence des anges*, and in my current research, digital sound processing and spatialisation in real-time.

The idea of a complexification of the experiential resembles what Brazilian artist Lygia Clark<sup>122</sup> describes as 'the body [that] is both singular and plural' (Luz 1975; Rolnik & Diserens 2005). What is referred to is not a loss of self, but indeed, a complexification of self as well as the development of other types of performative presence or performative projection. As a consequence of working with technology in real-time, I was both confronted with the possibility of a new performative behaviour and a consideration of the mediated body as an entity belonging to the physical body — deriving from its evolution and complexification — and not as a separate, superimposed or hierarchical form of the physical body, as suggested by authors like Deleuze and Guattari (1980) or Pitozzi (2008, 2009a, 2009b, 2010a, 2010b, 2012). These notions are further developed in Chapters 4 and 5 with respect to the methodology I developed with the performers, along with examples and testimonials of their application in my practical research. The question of real-time is pivotal for the hypotheses defended in

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<sup>122</sup> The work of Lygia Clark (1920-1988) is recognised as one of the founding forces behind contemporary art in Brazil. Since the beginning of her career in 1947, marked by a period of geometric abstraction and Neoconcretism until *Structuring of the Self* (1976 to 1988), and in workshops she gave at the Sorbonne in the 1970s (where students participated in collective bodily experiences involving 'sensory' or 'relational' objects), Lygia Clark developed fundamental research on the physical and therapeutic dimensions of the aesthetic experience conceived of as a creative process fully implicating the viewer and as an integral process of works and of life itself. Viewed 2 August 2014, online: <http://www.lespressesdureel.com/auteur.php?id=358>

this thesis. It was also particularly important for articulating the concept of potentiality presented in this chapter and its specific link to my approach to the interface.

### **2.8.5 The ontological shift of the body in contact with technology: introduction**

This chapter has analysed how the idea of a 'dilated' body' is characterised and activated by a virtuality or openness inscribed in corporeality, as well as by what is transitional (Buci-Glucksmann 2001, 2003; Pitozzi 2008, 2009a, 2009b, 2010a, 2010b) and vibrational (Rolnik 2006). These observations were further related to the concept of time (Lévy 1998) and to real-time. It was also shown how this ontological shift of the body is made possible through corporeality and a dynamic of destabilisation provoked by technology (Lévy 1998; Rolnik n.d. b) as well as through the revaluation and reintegration of the body's specific intelligence defended in this thesis, which has its source in an awareness of the inner body (Godard 1993; Kuypers 2006; Batson 2010; Suquet 2006). This interiority becomes mediatised (Pitozzi 2009a, 2009b) when it is subjected to the influence of an immersive, real-time audio feedback and lived as a new environment. The experiential mode it entails leads both to a recognition of corporal intelligence and to the revaluation of a cognitive paradigm based on the intelligence of the body. This redefinition of the relationship between the moving body and technology engenders another paradigm which will be developed later in this thesis: that of an interfaced intercorporeality.

### **Interior / Exterior: a return to the notion of the interface**

Within the particular context of new contemporary performance stages, this thesis considers how kinaesthetic intelligence, amongst other forms of intelligence, when reintroduced and revalued in the cognitive process, questions and redefines the very nature of cognition. According to my hypothesis, such reintegration implies

learning processes that can have an impact as emerging and evolutive principles for human beings. It is also necessary for developing an integrative way of thinking that can in turn lead to the emergence of other cognitive paradigms such as the one this thesis defends and that is supported by theories presented in Chapters 1 and 2 on the ontology of the body and empathy.

As referenced earlier, Ascott advances an interpretation of change that is of particular interest to me ([1966-67] 2003, p.150): 'the act of changing becomes a vital part of the total aesthetic experience of the participant'. In the historical overview of the interface presented earlier in this chapter, the analysis considered how this idea has direct resonance for the physical body in the context of the performative body and how it can lead to the creation of another aesthetic model that reflects the integrative dynamics of the living world. According to my research, this aesthetic paradigm emerges through an approach of destabilising the body, investing in risk-taking multisensorial activity and enriching the creative process with a paradigm of communication that has much in common with the theories of Suely Rolnik.

While highlighting these positions, my latest research as part of this thesis reveals that more and more artists are interested in a change of perspective and approach. They seek to understand interiority rather than exteriority or the spectacular. This perspective comes from the body and the experiential. These artists are more interested in the interoceptive, or of changes produced within the body, rather than in the exteroceptive, or external events caused by an environment, typical of many artistic productions involving technology. On this point, the research of Diana Gromala and notably her thesis *Towards a Phenomenological Theory of the Visceral in the Interactive Arts* (2007), concurs with the conclusions presented in my doctoral research.

Speaking of her interactive installation *The Meat Book* (2007), she raises the question of the visceral from a phenomenological point of view, firstly noting that the term refers to 'the cardiovascular, respiratory, uro-genital and excretory systems that affect mind and body on a continuum of awareness'. Gromala then remarks that:

[t]he visceral is mentioned in the field of interactive arts, but it remains systematically unexplored and undefined. Further, interactive artworks predominantly focus on the exteroceptive (stimuli from outside) rather than on the interoceptive (stimuli arising within the body, especially the viscera) senses (2007, p.03).

The perspective she underscores concerns 'the ways in which certain forms of interactive art may and do elicit visceral responses' (2007, p.03). Another perspective of this issue is offered by French dancer and choreographer Myriam Gourfink<sup>123</sup> whose work with micro-movement, choreographs trajectories of thought within the body. According to Pitozzi (2008), Gourfink works on a subtle dimension of presence involving a process of inner visualisation leading her to perceive every part of the body. This process implies and activates modulations in which the internal line of tension in movement is deprived of rhythmic interruption. It does not entail variations, only modulations. Gourfink speaks of her work in these terms:

It is necessary to activate a widespread perception to focus attention on the thumbnail [...]. Or still, find a way into the body to start and stop on the right heel on the skin and then listen to the weight recovered in a stream inside of the leg, and go in the flesh [...]. These trips on which I focused in this passage are completely supported by the very important breathing and only this aspect of the movement involves the issue of presence as a means of global perception of the process of composition and sequence of movements in space (cited in Pitozzi 2008).

A shift of perspective has thus taken place for certain choreographers that was also central to my practical research. However, I insist on the fact that developing a specific relationship between the body and technology can create other experiential forms in the performing arts. In the sections on the ontology of the body and the interface, I began analysing how this change of perspective can lead to the hypothesis of a physiological interface. This alternative approach to the interface notably led me to

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<sup>123</sup> Viewed 24 June 2012, online: <http://www.myriam-gourfink.com/>

propose an aesthetic model, as mentioned, that was based on the notions of *aesthesis* as 'the ability to perceive or understand' and *aisthêsis* as sensation. As my field of research concerns the performative body, it was precisely through asking myself "What is the body for us?" and by exploring the question both practically and theoretically, that the principal hypotheses underpinning the thesis emerged with respect to a redefinition of relations between the body and technology. These include: an ontological shift of the body, a revaluation and reintegration of the body's specific intelligence, the dissolution of the psycho-corporal border, the notion of a complexification of self and the development of a 'bodily or corporal potentiality'.

## **2.9 Summary**

With my practical research, I sought to develop an interface that could act on sensory-perceptual organisation, or the internal organisation of the individual performer/spectator. The relationship with technology redefined my mode of perception and influenced my way of thinking about and sensing the body, and thus, of organising the project. With this thesis, I propose a shift in the notion of the interface, suggesting that technology is no longer one of two poles of communication between the language of the human body and the algorithmic language lying at the heart of computer technology, but rather, wherein technology becomes a tool for a change of corporeality, for the development of intersubjectivity and thus, for intercorporeality.

Recalling that the carnal body is a meeting place of corporality and corporeality, thus a 'place of coexistence' (Merleau-Ponty 1945; Rieusset-Lemarié 2006), the mediated body is a resonator of different sensory dimensions that can become performative expressions. The mediated body is the expression of a

recomposition of the physical body subject to a transformation of its interiority through the effect(s) of technology. An example is the influence of sound feedback in real-time in a technological environment, in which sound is registered physically as a vibration and traverses the body. From the meeting of the physical body modified by a technological environment with the sound body, a 'vibratory intersubjectivity', an intercorporeality, is constructed in the performing body, from which a different paradigm of communication emerges. The condition of possibility for this new paradigm is the activation of a corporal potentiality (Pitozzi 2008, 2010a), the virtual element present in the body.

### **Intercorporeality as developed with respect to technology**

In this chapter, it was shown that the question of intersubjectivity - which becomes intercorporeality when speaking of the performative body - entertains a symbiotic relationship with the senses and perception. The views of Kozel (2007) and Buissière (2005) correlate with the findings of this research, also confirming Merleau-Ponty's theories describing ontology as a bodily intersubjectivity: 'where ontology is understood in phenomenological terms as not just what beings are, but as ways or modes of being; ontology considers how we come to be in a dynamic sense' (Moran 2000, cited in Kozel 2007, p. 240).

This statement resonates with the notion of intensified sensoriality as developed with technology, a concept reiterated by Cecilia de Lima<sup>124</sup> (2013, p.19) and André Lepecki, professor in the Department of *Performances Studies* at New York University:

[t]he technique of an artistic practice, being driven by a creative desire and grounded on the artist's embodied relation with the medium(s) of his work (as light, sound, movement, materials and so on), becomes a shift or an "act of deep sensorial intensification" (Lepecki 1998, cited in De Lima 2013, p.19).

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<sup>124</sup> A post-doctoral artist-researcher affiliated with *Universidade Técnica de Lisboa* and *Instituto de Etnomusicologia*, Lisbon.



The artist's sensorial systems increase their plasticity in tuning with the world, and this intensified sensorial relationship constitutes an improved means of perception (De Lima 2013, p.19).

The notion of sensory intensification has resonance with the concept of the carnal body as Merleau-Ponty presents it, but also figures in the analyses of Rieusset-Lemarié (2006) that were examined earlier in this chapter. James B. Steeves brings a complementary vision of this question in philosophy by emphasising the learning dimension in which our body places us, and its relationship to perception. Speaking of the visual artist, he argues that he 'plays on habitual ways in which we perceive different situations with our bodies so that we are able to see the world in new ways' (2004, p.4).

He pursues this reflection with references to Merleau-Ponty's theories:

[t]he mediation of Being in the form of flesh precedes any real/virtual distinction, as well as any actuality/possibility distinction. The reversibility of the real and the virtual can be seen in the fact that the flesh, while being immersed in the real experience of the sensible, contains the possibility of the sentient as the sensible's inner lining. Flesh, in other words, is the medium for the possible without which possibilities could never be taken up by the sensing body (Steeves 2001, cited in Gromala 2007, p.23).

Building on this argument, he advances the idea that art puts us in contact with 'an entire perceptual structure that the body understands as a world and possible modes of embodiment' (Steeves 2001, cited in Gromala 2007, p.23). Art is a battle that 'reinvents the very way we perceive the world' (Steeves 2004, p.51). And what is our greatest journey if not ultimately the movement of the perception? ...

The next chapter provides an overview of the field of dance and technology, presenting its main tenets and actors, as well as artists who influenced the practical research for this thesis.

### 3. CHAPTER III – DESCRIPTION OF THE FIELD OF DANCE AND TECHNOLOGY AND INFLUENCES

#### 3.1 The bases of my work and artistic approach

As this thesis has highlighted in the previous pages, my approach to creative research is phenomenological. It is also interdisciplinary, transversal and integrative. My practical creative research focuses on how the infiltration of technological thinking in dance and performance can find applications in the development of new performative models. Rooted in a syncretic mode which blends different cultural elements, my artistic process is based on a strategy of renewing sensory experience and perception with twentieth and twenty-first century technology, thereby opening the path to a new perceptual synaesthesia formed by the kinaesthesia of the physical body in a relationship with the interoception and exteroception of the mediated body.

My working method is intended as being evolutive. It is based on sensory-perceptual strategies that I experimented with that explore somatic components. As seen in Section 1.8.4 "The somatic and its principles", Batson (2010) identifies three key elements underlying the principles of somatic education: the '*Novel Learning Context*', '*Sensory Attunement*' and '*Augmented Rest*'. I integrated these three elements in my research process that involved integrating a technological environment as a new environment for the performative body. This technological environment constituted and involved a form of *Novel Learning Context* I worked with. *Sensory Attunement* was also a very useful tool for me because it focuses on sensory awareness (paying attention to sensing) rather than focusing on motor actions (doing). This process gives the dancer the opportunity to explore - and to interpret - internal sensations phenomenologically.

With these references, the dancer, but also the body, gains in autonomy as he/she acquires the ability to self-organise through sensation (sensory authority). According to Batson (2010), this type of kinesthetic awareness can be an agent of change and lead to generating other ways of moving and organising the body. *Augmented Rest* was then employed in order for the body to integrate all this new information because, 'rest periods help consolidate memory and improve motor recall' (Batson 2010). Through these experiments, which also provided new opportunities for the dancers, new references could be constructed from what were newly discovered sensations. Their 'new' movement could be further used to explore hitherto unknown forms of movement or to reproduce movement by referring to recent sensations. A more detailed explanation of how these elements were introduced can be found in Section 1.8.4.

So through this research-creation, one of my goals was to explore the body's potential for self-organisation when under the influence of technology, and specifically, when technology is lived as a new environment and the body experiences the destabilising effects technology can have on it. Another aim was that these experiments lead to developing enhanced sensory and perceptual awareness in order to invest in a relationship between somatics and technology that could potentially lead to a transformation of self - the performer -, and to other - the audience. These strategies are presented throughout the thesis, and specifically, in Chapter 5. They are based on somatic principles as well as on a consideration of technology experimented as a physicality: a physicality that is understood and lived as a new environment, an exteroception.

The practical research for the thesis also considers somatic practices via the exteroception created by technologies such as I employ them, that is to say, when

exteroception can renew sensory and perceptual experience by creating a mediated internal reference. This awareness 'from the inside' or of what is internal was partly inspired by my readings of Merleau-Ponty and partly through my growing awareness of the body from within and through the sixth sense: kinaesthesia.

My artistic process also aims to achieve a transformation of the body through references that are tactile, kinaesthetic and experiential. It is founded on the experiential as raw material. The thesis notably argues that this process can open up alternative gestural codes, performative modes and behaviours. As a result, it proposes that it is possible to generate a relationship between somatics and technology that is capable of engendering new aesthetic, cognitive and communicational paradigms and where technology can activate a process that reconfigures sensory-perceptual activity. These changes to corporality (*corporalité*) in turn create corporeality (*corporéité*). The practical research for the thesis also questions how this dynamic of transformation can find applications in the development of new performative models.



Figure 26: Isabelle Choinière, *Communion*, 1994-1999



Figure 27: Isabelle Choinière, *La Démence des anges*, 1999-2005

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Images 26 and 27 have approval to be used

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The experimentation under study here distinguishes itself from my two other works *Communion*<sup>125</sup> (1994-1999) and *La Démence des anges*<sup>126</sup> (1999-2005) as I was

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<sup>125</sup> Video of *Communion*, performed by Isabelle Choinière. Viewed 18 December 2013, online: <http://youtu.be/2uiSkHM2NWk>

interested in achieving a greater relational complexity. The interfaces I had been offered to date were no longer sufficient. I needed to move towards more organic principles and modes of functioning of which phenomenology and the experiential are a part, in order to generate this complexity<sup>127</sup>. It is partly for these reasons that, with the present practical research I desired to re-invest in the relationship between the somatic and technology and and move towards what media art pioneer Roy Ascott ([1966-67] 2003, p.150) intimates when he suggests that: '[t]he act of changing becomes a vital part of the total aesthetic experience of the participant'.

### **3.2 An historical context of the field**

Due to the interdisciplinary and collaborative nature of both the present research and the field under study, it is important to examine the historical context of the field itself. Certain underlying concepts are firstly addressed, followed by issues specific to the field, a description of its leading figures (influential artists and collectives) and then, to conclude the Section, a look at the artists who have influenced my work.

#### **3.2.1 Trends and concepts in the field of dance and technology<sup>128</sup>**

##### **An international community**

From the outset, and with respect to the development of my practical and theoretical research, it is relevant to stress the importance of the presence and work of a broad community of international artists who are dedicated to exploring the relationship between the moving body and technology. They have contributed in a major way to the

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<sup>126</sup> Video of *La démence des anges*, performed by Isabelle Choinière and Alyson Wishnovsky. Viewed 18 December 2013, online: <http://youtu.be/aeJgRgBYm4>

<sup>127</sup> Analyses of this experimentation are presented in Chapter 5.

<sup>128</sup> This Section was presented in my RDC2 written exam at Plymouth University. For the purpose of continuity, I include it here in an expanded and updated form.

development and experimentation of various technologies and have also initiated discussions surrounding the mediated body and different degrees of expression of embodiment. This experimentation was conducted in the context of their practice, as well as in connection with the general discourse of contemporary art, especially that of dance and the moving body, including for some, with somatic practices.

According to Sharir, this climate of international, transdisciplinary collaboration was particularly active from the late 1980s to 1990s:

[...] dance, visual art, electronic music, engineering, computer science, video art, and sophisticated projection systems were blurred in a sea of creative, fluid, and fruitful exploration. Participants learned from each other how – over time – to contribute in order to achieve a common goal (2012, p.55).

Predominantly in the 1990s, the international dance community worked together in a collaborative manner to conceive, develop and create new types of performative propositions that took the shape of variations within the scope of the performing arts (including public art, installations, all types of performances, *et caetera*) that integrated interactive devices, robotics, motion capture, virtual reality, digital animation, elements of bio art (implants, the ingestion of substances generating physical reactions in performance, *et caetera*) or wearable computers/prosthetics.

### **A discipline to be created**

Referring to activity in the field that took place from the early 1980s to the 1990s, Yacov Sharir notes that, '[a]ssumptions related to the use of these technologies were challenged during performance' (2012, p.53). Further, and as previously mentioned (Sharir 2012), even today, one must speak of an environment in transformation in which more questions emerge than answers. Concurring with Sharir's opinion, Philippe Baudelot<sup>129</sup> (2008) argues that it is neither wise nor possible to

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<sup>129</sup> In an email communication on 27 May 2008.

identify a single artist or specific technology that has singly contributed to the development of the discipline. As noted by these authors and also confirmed by research conducted for this thesis, the discipline is still being created; it is fluid and must be considered as a whole.

It is interesting to observe the huge collaborative effort that exists within the field, comprising a dynamic of constant exchanges: of groups and research projects, meetings, conferences, personal contacts, collaborations, social networks such as the dance-tech.net lead by Marlon Barrios Solano<sup>130</sup> or the first Dance-Tech List initiated by Scott deLahunta and publications.

There are still signs of strong activity in the field today, especially on a theoretical level, with publications by Intellect Journals, for example, or conferences held on the subject in 2012 and 2013 such as the *Somatics and Technology Conference 2012*<sup>131</sup> or *METABODY*<sup>132</sup>, that clearly demonstrate that these exchanges have contributed to and reflect a common interest in understanding and assessing the stakes of artistic processes and evolving research on the performative body and technology.

The dynamic reflection nourished by these interdisciplinary exchanges on an international scale has created a platform for understanding emerging issues related to artistic processes involving the performative body and technology. More recently,

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<sup>130</sup> Marlon Barrios Solano is the creator/producer of dance-tech.net, a social networking site devoted to dance and technology. He is also an artist, researcher, consultant and educator on movement arts and new media, networked cultures, social media, collaborative technologies and open knowledge.

Viewed 7 October 2014, online: [http://www.dance-tech.net/profile/network\\_producer](http://www.dance-tech.net/profile/network_producer)

<sup>131</sup> The Somatics and Technology Conference 2012 was organised by Andrea Davidson and Sarah Rubidge, professors at the University of Chichester in the United Kingdom. It was held in June 2012.

<sup>132</sup> METABODY is a five-year European Commission research project. One of its first official events was the festival Metahuman/Metaformance Studies 2013 which included conferences, performances, workshops, *et caetera*. Another event took place at the international CynetArt festival in Dresden from November 14-18, 2013. I participated in it in giving a conference on November 15th and presenting my work on November 14th, 15th and 16th 2013.

Viewed 7 October 2014, online: <http://metabody.eu/en/forum/imf-2013/>

creative research has taken distance from the more conventional uses of technology in the arts wherein the body simply serves to produce technological events (sound, images, *et caetera*). New practical and theoretical approaches are rather integrating and analysing the implications of developing different types of mediation and processes of embodiment.

## Questions

According to Sharir, questions lying at the core of artistic exploration in the 1980s in artists' effort to integrate technology in their creative work provoked the emergence of shared concerns:

[...] how could we best understand and employ interactive systems? How could we electronically charge a performance space for the purpose of freeing the performers's bodies from interacting/wearing the crudeness of electronic devices? How could we maximize the effectiveness of projected cyber images so that they could co-exist in the space with live bodies? And finally, how could we better understand issues of identity and representation in cyberspace? (2012, p.54)

Gavin Carver, professor at the University of Kent and Colin Beardon, professor at the University of Waikato, New Zealand, analyse the integration of digital technologies in theatrical performance from the perspective of practitioners reflecting on their discipline in their book *New Visions in Performance* (2004). Referring to the concerns above, they outline the characteristics of new technologies in performance as:

[...] the virtuality and fluidity of space and time, and the potential for alternative realities, spaces and narratives; interactivity and the active audience / participant; the role of the body (and its double) in technology; enhanced or mediated performance and the ensuing questions around [...] presence; the ability of performance to extend himself beyond the circumscribed moment and place of its enunciation; and the 'problem' of liveness in multimedia work (2004, p.2).

Having participated in the initial period of the dance and technology movement in the second half of the 1990s, I am sensitive to these authors' focus on the dimensions and issues raised by the integration of technology. It is true that at the time, just getting technological devices to function with the means available was a huge challenge. This meant that artists spent most of their time, energy, resources, and attention on the



development and operation of tools that were often in a state of experimental development. Unfortunately, the body and the question of embodiment often occupied a secondary role. To some extent and over time, technology has become more available and accessible. Since then, the issue of embodiment has also become a priority for certain artists in the movement, notably for my own research, as well as for a third wave of artists working with technology<sup>133</sup>.

Parallel to questions concerning the performative body and technology, the mediated body and the development of alternative relationships to embodiment, the issue of the perception of reality should be raised. Steve Dixon, ex Pro Vice Chancellor of Brunel University and currently President of Lasalle College of the Arts, Singapore, makes a thorough analysis of historical developments in the field in his book *Digital performance: A history of New Media in Theater, Dance, Performance Art, and Installations* (2007). In one passage, he brings up the question of the perception of the real:

[...] the simple point so many critics seem to miss or not wish to acknowledge that the real has changed, as it has always done. The real, and our consciousness of what is real, is subject to time, and for several hundred years it has had a conjoined twin: technological "progress". In the 1950s and the 60s, people were at first amazed to see little people in their homes on a thing called television, and the real changed then. But we have since got over how spooky television is, just as we have quickly become used to and have assimilated the capabilities of the computer and the Web – it is just part and parcel of what today is real (2007, p. 144).

As mentioned earlier, this thesis notes a shift of thinking that reorients the question of technology in dance towards one of embodiment, by artists who prioritise the integration of somatic techniques in order to revisit the relationship with technology. But as my research shows, it can be argued that we are still at the beginning of this type of experimentation. Much work remains to be done. According to Davidson, dance and somatics can make a special contribution to the understanding of this relationship

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<sup>133</sup> The second period lasted roughly from 1980 to 1999, largely focused on new forms of embodiment, the roles different types of technology were playing in bodily and perceptual awareness, what was becoming mediated and what changes were brought in with mediation, *et caetera*. The third period began in the year 2000 to the present.

because they expose us to 'a broader understanding of technological evolution and the aesthetic, philosophical and scientific paradigms that surround it' (2013, p.3). This line of thinking is particularly helpful in support of this thesis' hypotheses as are the views of Leroi-Gourhan which were presented in Section 2.4. Leroi-Gourhan notably argues that an understanding of the evolution of technology is closely related to the evolution of the body and hence, to gesture. This interdependence corresponds to the body's need to adapt to its environment, and to the evolution of the environment to meet the needs of the body by extension, he qualifies technology as the environment of human beings.

Davidson continues her analysis of recent debates on the question of somatics and technology, arguing that:

[...] within the world of new media art, or what was once termed "electronic art", there has been growing interest in the last decades in the role of perception, sensoriality and cognition in the design, reception and analysis of artworks and performances involving interactive and sensorial scenographies, have notably prompted a reconsideration of these questions amongst scholars. Quite obviously, the body is key to any such discussion.

While the term somatics gained widespread recognition in the 1990s, coinciding with a resurgence of philosophical and scientific interest in the role that the somatic plays in human thought and experience (Bernard 1993; Varela et al. 1993; Damasio 1994), media art theorists and digital artists began expounding matters of proprioception, embodiment and perception from an informed perspective of somatics. For choreographers participating in digital festivals and exhibitions, it seemed redundant to speak of the body without inferring some form of somatic practices (2013, p.4).

As Davidson further notes and as this thesis also proposes, a rechanelling of thought concerning the performative body shows how 'the somatic, cross-modal, relational and creative characteristics of dance can be of significance for any such debate. And for dance, these same technologies can serve to enhance choreographic discourse and enlist audience participation in new ways' (Davidson 2013, p.12). These latest reflections on the topic which integrate the somatic, can possibly open the path for deeper engagement with experimentation of mediatisation and embodiment in research that may eventually lead to an enrichment of the experiential, and in which technology plays a role in promoting this enrichment.

## **Overview: significant artists and collectives**

In this section, the methodology for communicating information about the discipline's development and history derives from four main sources: 1- Personal knowledge of the field from 1995 onwards, through participation in the main art and technology events of the time (see Appendix 8.1.5) where I was in direct contact with the main players in the field of 'Dance and Technology'; 2- the *Dance-Tech List* on the website [dance-tech@freelists.org](mailto:dance-tech@freelists.org), the most important forum for exchange and information for practitioners in the field; 3- online correspondence and/or personal encounters with the main players in the field, both with regards to research and the organisation and setting up of its networks; 4- references to specialised books, art journals and magazines devoted to information about the evolution of the field of Dance and Technology.

To complete the list of the field's main players, and in addition to these four sources of information, other criteria for selection stipulated that the persons declare themselves as part of the dance milieu and confirm that their main training had been in dance, regardless of whether their form of expression had a specifically embodied focus or not. Further, they had to have elected to work in the stage arts, whether in a conventional or experimental manner. One exception to this last rule is performance artist Stelarc, owing to the widespread influence his work on the body in relation to technology has had on theory in the field and also aesthetic expression.

Two main practitioner-academics of the first period of the 'Dance and Technology' movement were Johannes Birringer and Scott DeLahunta. DeLahunta started the *Dance and Tech List* in 1996. The list was active until 2003, but has now taken a new form since that time. The archives of all exchanges made amongst members

are available online and, as of 2005, can be accessed, at: <http://www.freelists.org/archives/dance-tech/>. Between 1996 and 2006, DeLahunta was extremely active and wrote four books and numerous articles on the subject of dance and technology. He is currently working in the United Kingdom as a Senior Research Fellow at Coventry University, as a consultant for Random Dance and is the Project Leader for Motion Bank, a four-year project (2010-2014) of The Forsythe Company.

Johannes Birringer is certainly still one of most influential actors in the field. He started the first *M.F.A. Dance Technology* programme in the United States at Ohio State University and is currently director of the *DAP Lab* and chairman of the *M.A. programme in Drama and Performance Technologies* at the *School of Arts* of Brunel University, London.

John Mitchell, of the *Department of Dance* at Arizona State University, also deserves a mention for having organised the *International Dance and Technology 99 conference (I.D.A.T.)*<sup>134</sup> which took place in Arizona in 1999, an event that was to sum up the entire second period of the movement<sup>135 136</sup>. All these researcher-practitioners are, or have been, affiliated with universities in the United States and some are now active in universities in the United Kingdom. The affiliation with universities proved to be a means to support research in the field and have access to equipment, teams of researchers, *et caetera* (Sharir 2012).

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<sup>134</sup> Viewed 27 may 2008, online: [http://www.ephemeral-efforts.com/idatindia\\_hinduserver.pdf](http://www.ephemeral-efforts.com/idatindia_hinduserver.pdf)

<sup>135</sup> The first International conference of Dance and Technology (I.D.A.T.) held in February 1999 at Arizona State University (A.S.U.) in Tempe, Arizona brought together over 300 dancers, technical experts, educators and scholars from 20 countries on five continents to share their expertise on dance and technology in experimental and provocative ways (1999).

Viewed 27 May 2008, online: [http://www.ephemeral-efforts.com/idatindia\\_hinduserver.pdf](http://www.ephemeral-efforts.com/idatindia_hinduserver.pdf)

<sup>136</sup> <http://www.ephemeral-efforts.com/IDAT99.html>

Another group of major actors, working in France, joined the movement from 1995 onwards. Armando Menicacci, Emanuele Quinz and Andrea Davidson, all three affiliated with the *Université Paris 8*, created the laboratory *Médiadanse* in the Dance Department of the university in 1999, offering the first curriculum of courses in dance and technology in France, organising conferences, seminars and performances as well as publishing works in conjunction with *Anomos*, a cultural association devoted to the digital arts they also created.

Philippe Baudelot is another major European actor through having organised and been responsible for, from 2001 to 2007, the Digital Dance Section of the international festival *Monaco Dance Forum*, a festival which also integrated public access to workshops and lectures. The festival was the most important event in the field since *I.D.A.T.*, and became a very significant meeting hub for the members of the field of dance and technology.

From conversations held in 2010 in Paris with Philippe Baudelot and Andrea Davidson, as well as from my own observations, it emerged that right from the start, the dance and technology movement was marked by a split of approaches. One approach, proposed mainly by American adherents, focused on technological tools and their evolution. The other approach, primarily based on the senses and the elaboration of narrative and meaning was defended by Europeans, whom, moreover, developed a theoretical discourse that took into account dance history with references stretching from the early modern dancer Loïe Fuller's work to the postmodern period of contemporary dance. Their analyses also placed emphasis on the development of scenography. In passing, it can be noted that even today, practicing artists do not always make these links with dance history, or worse, are not even aware of the evolution of

technology in dance. According to Andrea Davidson, in a conversation in Paris in 2011, and more recently in a conversation with Florence Figols from the Department of Dance (Interdisciplinary stream) at Concordia University, Montreal, in June 2014, most traces of dance and technology's history have been lost in the sense that work done previously is not always known or fully accounted for.

The European analyses testify to the fact that the history of dance and technology is still young and in need of documentation. In 2008, Johannes Birringer wrote a book on the history of dance and technology entitled *Performance, Technology and Science*<sup>137</sup>. In the book, he explores the convergences of performance and science that drive computer-mediated, interactive art. He examines the shifts that have occurred in the aesthetic understanding of performance within computer-augmented, virtual and networked environments. Steve Dixon's *Digital Performance: A History of New Media in Theater, Dance, Performance* (2007) examines these issues from a different perspective. Some of the views expressed resonate with different aspects of the thesis' research, and those that seem most relevant will be examined.

### **Principal philosophical approaches**

During the professional seminar *Moviment i Digits* in Celri, Spain, in October 2004, to which ten choreographers including myself had been invited, and more recently, at the research event METABODY in Dresden in October 2013, I was able to identify two main philosophical approaches motivating the discourse of the body in dance and technology:

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<sup>137</sup> Published by PAJ Publications (New York).

1. a theory of extension and its accompanying problematics of duality and materialism<sup>138</sup> through which the body is essentially positioned as an object in relation to technology (Laruelle 1991), which seems to correspond to the propositions of philosophers such as René Descartes and much later, Marshall McLuhan (McLuhan 1972);
2. a non-positional relation of oneself via technology, which seems to correspond to the proposition of Oriental philosophy (a theory of interconnectivity). This is a position defended in this thesis concerning research on the complexification of self.

Many dancers and body-based performers can be situated within the first category. It is the principal and most common approach. Here, the body is understood and proposed as a component and extension (artificial interface) of the machine, an approach wherein the body is often called 'obsolete' or must be 'augmented'. This approach has another expression inspired by the theory of rhizomes as developed by Deleuze and Guattari (1980). Deleuze and Guattari's theory presents a variation on the idea of the body being an extension of the material world (and thus an object). For Deleuze and Guattari (1980), the rhizome presents a model in which organisation does not follow a conventional line of subordination (as in with a root and an arborescence based on the model of the Tree of Porphyry). Rhizomes demonstrate a linear structure that follows the structure of many plants (for example, a root system in which an underground stem extends and grows horizontally). Comparing Deleuze and Guattari's concept of the rhizome to the body and technological prostheses and other interfaces, the body can be considered an extension of the machine, a prolongation. However, as an extension of the machine, the body can potentially be considered as an object amongst others in the material world. Artists who adopt this philosophical approach will, for

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<sup>138</sup> Introduced earlier in Sections 2.2 and 2.3.

example, work with movement capture systems, and, in most cases, with technology that does not influence or change their physicality, but acts simply as a 'supplement' coming from outside their body. If these approaches are presented at this point in the thesis, it is to clearly demonstrate the impact that the relationship between the body and technology has for the aesthetic dimension of works and for the choice of technologies to be used.

### Three periods in the history of dance and technology

In this section, an overview of the leading figures in the field of 'Dance and Technology' is presented with respect to three main historical periods this thesis identifies. The first period corresponds to the time of the pioneers, starting from the early 1900s to around 1979. The second period was between 1980 and 1999. The third period is the current period from the early 2000s until today.

### The precursors

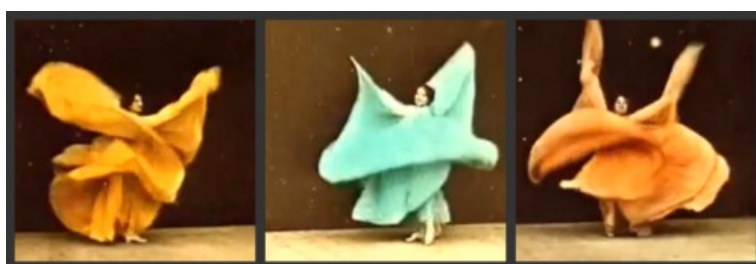


Figure 28: Loïe Fuller, *Serpentine Dance*, 1892<sup>139</sup>

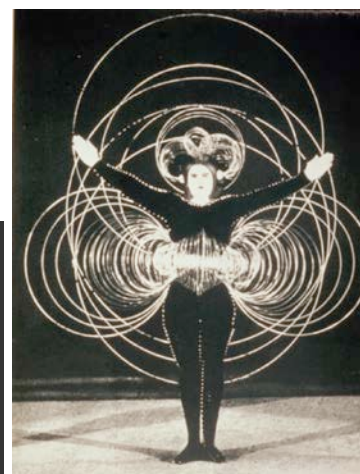


Figure 29: Oscar Schlemmer, *Triadic Ballet*, 1922<sup>140</sup>

Figures 28 and 29 have approval to be used

<sup>139</sup> Viewed 23 November 2014, online: <http://www.apollo-magazine.com/loie-fuller-la-casa-encendida-madrid/>

<sup>140</sup> Viewed 23 November 2014, online: <http://library.calvin.edu/hda/node/2320>



According to European analyses, the initial figures or precursors who marked and crafted this movement, were Loïe Fuller (1862-1928) and Oskar Schlemmer<sup>141</sup> (1888-1943). For Sally Jane Norman, professor of Performance Technologies and director of the *Attenborough Center for the Creative Arts* at the University of Sussex, electric lighting constitutes the foundation of the modern stage. According to Norman, electric lighting opened up the entire stage in contradistinction to the dim lighting of the past. Loïe Fuller, an American choreographer and first dance artist to integrate electric lighting, also wanted to integrate all components of choreographic space and action within a single coherent aesthetic. Oskar Schlemmer, was a German painter and scenographer whose innovations in dance and theatre gave him a reputation as a pioneer of interdisciplinarity. He was one of the first artists to reflect on relations between art, new materials and technical innovations.



Figure 30: Marice Béjart and Nicolas Schoffer, *CYSP I*, 1956<sup>142</sup>

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Figure 30 have approval to be used

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<sup>141</sup> Triadisch Ballet. Viewed 16 August 2008, online:

<http://www.youtube.com/watch?v=akRMaH9O7Cs&feature=related>

Triadisch Ballet. Viewed 16 August 2008, online: <http://www.youtube.com/watch?v=XSNKrD25hsk&NR=1>

Triadic Ballet (1927) – Schlemmer. Viewed 16 August 2008, online:

<http://www.youtube.com/watch?v=xMDtwC76HjA&NR=1>

<http://www.youtube.com/watch?v=XSNKrD25hsk>

<sup>142</sup> Viewed 23 November 2014, online: <http://artplastoc.blogspot.ca/2012/11/137-le-mouvement-en-sculpture-3-seconde.html>

Other seminal works of this first period include *CYSP 1* produced by Maurice Béjart and sculptor Nicolas Schoffer<sup>143</sup>. Schöffer was one of the first artists to be inspired by the new science of cybernetics, desiring to work artistically with early definitions of the 'electronic brain'. His animated spatiodynamic sculpture *CYSP 1* marked the first interactive component of dance history<sup>144</sup>. The sculpture was integrated in Béjart's choreography and presented at the first Festival d'Avant-Garde de Marseille in June 1956: 'The sculpture reacted spatially to dancers approaching and moving away from it. Its colorful plates, turning and presenting their differently colored faces, also participated in the aesthetic and dynamics of the ballet'<sup>145</sup>.

Another work, *Variations V* (1965) by Merce Cunningham<sup>146</sup>, was a multimedia performance created in collaboration with composer-musicians John Cage and David Tudor, and images by Nam June Paik and Stan Van der Beek. Although the technologies employed were not digital but rather electronic, engineer Billy Klüver perfected a photoelectric system and microphones capable of detecting and reacting to movement that in turn, generated music;

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<sup>143</sup> Cybernetic Sculptor, Paris, France. 1912-1992. Viewed 16 August 2008, online: <http://www.olats.org/schoffer/cyspe.htm>

<http://www.olats.org/schoffer/>

<sup>144</sup> Here are a few elements that explain the sculpture's functioning:

CYSP 1 is affected by sound intensity, light intensity and heat (and interpretation of colors). Sound is detected by microphone input, and CYSP 1 reacts by being excited by silence and is calmed by noise. Photoelectric cells detecting colour are excited by the color blue, which means that it moves forward, retreats or makes a quick turn, and makes its plates turn fast; it becomes calm with red. It is also excited in the dark and becomes calm in intense light. CYSP 1 has total autonomy of movement [...] as well as axial and eccentric rotation, and the setting in motion of its 16 pivoting polychromed plates.

Viewed 16 October 2014, online: <http://cyberneticzoo.com/cyberneticanimals/1956-cysp-1-nicolas-schoffer-hungarianfrench/>

<sup>145</sup> Viewed 28 October 2014, online: <http://www.olats.org/schoffer/archives/cysppubl.htm>

<sup>146</sup> Viewed 16 August 2008, online: <http://www.medienkunstnetz.de/works/variations-v/video/1/>



Figure 31: Merce Cunningham and John Cage, *Variations V*, 1965<sup>147</sup>

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Figure 31 have approval to be used

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American choreographer Mimi Garrard<sup>148</sup> created *Cortly* (1970), a performance involving composing and generating lighting information in real-time. The work's first version was designed and built in 1969 and integrated onstage for the first time at the *Henry Street Playhouse* in New York City. It was the first time that a computer was employed onstage to create a real-time relationship between scenographic elements, in this case, lighting and music.

After Cunningham, Alwin Nikolais was modern dance's second major pioneer of multimedia. His principle works include *Masks, Props, and Mobiles* (1953), *Totem* (1960), and *Count Down* (1979)<sup>149</sup>. Amongst other things, Nikolais proposed a theory of 'decentralisation' that depersonalised dancers through costuming and elements of stage design. His theory cut through to the very heart of dance. Using sound collage and changing images projected onto the stage and the dancers' bodies, Nikolais shifted focus away from individual dancers in order to favour an aesthetic synthesis of elements in his productions.

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<sup>147</sup> Viewed 23 November 2014, online: <http://blogs.dharma.art.br/2011/11/john-cage-merce-cunningham-%E2%80%94-variations-v/>

<sup>148</sup> Viewed 16 August 2008, online: <http://www.mimigarrarddance.com/>

<sup>149</sup> Viewed 16 August 2008, online: [http://www.pbs.org/wnet/americanmasters/database/nikolais\\_a.html](http://www.pbs.org/wnet/americanmasters/database/nikolais_a.html)

A second period in the history of dance and technology, from 1980 to 1999. One main event, the International Dance and Technology Conference 99<sup>150</sup> (I.D.A.T. 99), held in 1999 at Arizona State University (A.S.U.) in Tempe, Arizona, encapsulated the type of works that were produced in this period, with many leading artists presenting their work and giving papers at the conference. Numerous round tables with artist-researchers, contemporary dance critics, producers, teachers and researchers also took place. Amongst those present were Susan Kozel, Yacov Sharir, Scott deLahunta, Johannes Birringer, Robert Wechsler, Troika Ranch, John Mitchell (one of the organisers along with Rob Lovell) and myself.

The third period, from 1999 until the present, is characterised by an increasingly dense integration of technology in the performing arts with devices that involve the senses to create meaning. However, at the beginning of this period, integration of research was less of a priority and less frequent. Technological integration largely took place on the level of scenography that often had little to do with fundamental inquiry. For the most part, technology was used, but its potentialities not explored in depth. Aside from a few exceptions, it corresponded to a dynamic of producing live performance with little renewal of meaning. In recent years however, interest in more creative research has revived, and the nature of works has changed correspondingly. The second and third periods are evoked in greater detail below.

### **The second period (1980-1999)**

If the second period of dance and technology's history was mainly dedicated to experimental research, it was also closely linked to the concerns of technological developments at the time. Its key players were mainly proponents of the augmented

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<sup>150</sup> Viewed 7 November 2014, online: <http://www.uv.es/~fores/programa/birringer.html>

body position and the theory of extension. Artists included Jean Marc Matos from France<sup>151</sup>, Yacov Sharir from the United States, Scott deLahunta from the United States, Johannes Birringer working in the United States, the group *Palindrome* directed by American choreographer Robert Wechsler who moved to Germany in 1988<sup>152</sup>, Troika Ranch, directed by Mark Coniglio and Dawn Stopiello from the United States<sup>153</sup>, John Mitchell from the United States, Thecla Schiphorst from Canada and Stelarc from Australia.

Let us look in more detail at the work of two of these artists, beginning with the work of Yacov Sharir. His work, largely influenced by Stelarc (Sharir 2012), presents the example of a hybrid approach combining the augmented body and the theory of extension with a rhizomatic approach. The connection his work makes between the body and technology is based on a practice of somatic techniques. A yoga teacher at the University of Texas, Austin, in the Department of Theatre and Dance, he also teaches courses on dance and technology. Thus, even if he considers the body as an extension of technology (the machine), Sharir uses proprioceptive and kinaesthetic knowledge to invest in the development of virtual environments.

His collaborative work in virtual reality in *Dancing with the Dervish* (1993) with artist Diane Gromala<sup>154</sup> is an example. Sharir relies on sensory capacities and perceptual knowledge as a basis for navigation in the work's virtual environment and for creating imagery in which the user is immersed. So even if he remains caught up with a device and instrumentation that is cumbersome and limits gesture almost entirely, Sharir manages to create a work that invests in the mediated body and the notion of

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<sup>151</sup> Viewed 16 August 2008, online: <http://www.k-danse.net/>

<sup>152</sup> Viewed 16 August 2008, online: <http://www.palindrome.de/>

<sup>153</sup> Viewed 16 August 2008, online: <http://www.troikaranch.org/technology.html>

<sup>154</sup> Referenced earlier with respect to her interactive installation *The Meat Book*.

embodiment in an original way within an artificial environment. Although he does not explicitly reflect upon the nature of such changes to the mediated body and the question of embodiment, in experimenting with technology, he nevertheless shares his own experience as a dancer from the point of view of sensation. This said, with respect to this thesis' research, it should be pointed out that his approach focuses mainly on the development of technology. This comment comes as an observer through the critical distance that time and hindsight gives one. It is not a judgement, because I recognize the importance of such pioneer artists' work which laid the foundations for research and reflection on the practices I am reinvesting.

The work of Stelarc<sup>155</sup> has also had an important influence on the field. An Australian-based performance artist, who teaches at Brunel University, his work explores and extends the concept of the body and its relationship with technology through human-machine interfaces that incorporate medical imagery, prosthetics, robotics, virtual reality systems and the Internet. Stelarc's discourse and basic position is that the human body cannot evolve as quickly as the machine. He thus approaches the body as a component of the machine. He stages performative installations in which the body is connected to different devices through different technologies. He uses his body, for example, as a circuit, passing electrical current through the body in such a manner that it produces reflexes that can be transmitted to various robots. The artist pushes the theory of the disappearance of the body to a maximal point of obsolescence and in this way, builds on the previously mentioned theories of William Gibson (1984, cited in Kozel 2007, p.64).

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<sup>155</sup> Work from 1996 to the present.

In the light of research conducted for this thesis, attention must be drawn to the fact that during his early career, Stelarc conducted experiments that were related to an extreme practice of yoga. Inserting hooks into his skin, he suspended himself over the sea or in performance spaces. He reiterated this practice in his experiments with robotics, where he treated his body like a piece of butcher's meat and manipulated it with a remote-control, while again suspending himself by hooks<sup>158</sup>. When questioned in the past, Stelarc always refused to link his experience of yoga with these practices. However, through practicing yoga, he developed an ability to resist intense pain. According to my own experience as a performer, it seems plausible to hypothesise that a form of proprioceptive learning was also adopted in his approach later on to works involving technology.

During my participation at *Future Moves*, an international festival of electronic art and the performing arts, that took place in Rotterdam, in 1996, I saw one of his performances where he presented himself as part of a device/machine. During the performance, entitled *Fractal Flesh* (1996), he almost lost his life because of the intensity of the electric current passing through his body. If Stelarc integrates an aspect of proprioception in his work, it is nevertheless oriented by the violence he commits on his body. He promotes the ultimately mediated body: by its destruction and

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<sup>156</sup> Viewed 23 November 2014, online: <http://willvlytle.wordpress.com/2012/02/27/a-debate-with-body-artists-janine-antoni-and-stelarc/>

<sup>157</sup> Viewed 23 November 2014, online: <http://stelarc.org/?catID=20290>

<sup>158</sup> Viewed 23 November 2014: online: <http://stelarc.org/video/?videoID=20294>  
<https://www.youtube.com/watch?v=OKEfJRe4uys>

disappearance, as well as with a disappearance of the act of embodiment. In my opinion, the act of embodiment is a creative act.

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Figure 34: Stelarc, *The third Hand*, 1980<sup>159</sup>

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Figure 35 has been removed due to Copyright restrictions

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Figure 35: Stelarc, *Fractal Flesh*, 1996<sup>160</sup>

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<sup>159</sup> Viewed 23 November 2014, online: <http://people.ucsc.edu/~joahanse/onlineexhibit/thirdhand/>

<sup>160</sup> Viewed 23 November 2014, online: <http://transalchemy.files.wordpress.com/2009/06/splitbody2.jpg>



### **The third period –contemporaries**

The third period in the history of dance and technology marks a recent return to an interest in research and a revaluation of sensory information in performative experience with technology. Research for this thesis has revealed a plurality of approaches, although I am far from agreeing with or being able to answer all the questions raised by the various expressions of the mediated body and levels of embodiment concerned. I view them more as a series of experiments that can possibly lead to new paths of research. My own research is situated within this context and I agree with Kozel when she notes:

'[...] when collaborating on artistic projects with both low and high technologies: we needed to figure out what we were doing while we were doing it. We were short of precedents. [...] I was less concerned with formal, historical, or critical accounts of what previous artists did than I was with the implications for corporeality, intersubjectivity, [...] the transformation of time, space, and motion as understood through the flesh of the experience' (2007, p.15).

Several events took place from the early 2000s on which focused on the relationship of the performative body, or on one of its aspects, such as the senses and perception, in conjunction with technology. These events were mainly organised by the dance community. They include: *RESPOND interchange*, *Future Physical* at the University of Cambridge, United Kingdom, in April 2003; the seminar *Moviment i Digits*, *L'animal a l'esquena* at the *Center for Performing Arts* in Celri, Spain, in October 2004; *Corps réels, corps virtuels – les rencontres internationales danse et art numérique – Bains numériques #1* at the *Centre des arts d'Enghien-les-bains*, France, in October 2005; *Forum F.A.Q. – Perfuntas Sobre Arte, Consciencia e tecnologia* at *SESC / Premio Sergio Motta de Arte e technolgia*, São Paulo, in November 2006, where I was on the same round table as Suely Rolnik.

Then, in 2007 and 2008, the following events can be mentioned: *Reviewing the Future* organised by *HEXAGRAM Centre for Research-creation in Media Arts and Technology* and the *Centre interuniversitaire des arts médiatiques à Montréal* in April

2007; *Te-Dance Festival 2007 – Technologically Expanded Dance Project* at the *Universidade Técnica* Lisbon, in November 2007; *Ricerca e Futuro, arte, tecnologia e coscienza. Scenari dell'arte technoetica* at the *Center for Contemporary art Luigi Pecci*, Prato, Italy in December 2007; *New Realities: Being Syncretic*, a conference held at the *University of the Applied Arts Vienna*, Austria, in July 2008, where I was able to meet and speak with Barbara Maria Stafford, author of *Body Criticism* (1993).

More recently, there was: *Performativité et effets de présence*, a conference held at *Concordia University* in Montreal in May 2010; *The Somatics and Technology Conference 2012*, at the *University of Chichester* in June 2012; the conference *(corpo)realities* at *Indiana State University* in March 2013; *METABODY*, a European Union research project that had one of its meetings in Dresden in November 2013; and lastly, the *XIII Image International Festival* in Manizales, Colombia, organised by the doctoral programme in Design and Creation at *Caldas University* in May 2014.

I was fortunate to be able to attend all these events, presenting papers on my research, often as keynote speaker, and also, in many of them, presenting performances and thus my practical research<sup>161</sup>. I also gave training seminars for dancers and other artists in the performing arts on the integration of technology in relation to the performative body. These events also gave me the opportunity to attend performances and lectures and thus to keep in touch with recent practical and theoretical research on the subject of dance and technology.

The third period can actually be said to encompass several tendencies: 1- those present in the second period and thus demonstrating the same type of artistic expression;

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<sup>161</sup> Some of which is studied in this thesis.

2- works prioritising the integration of technology in scenography; 3- and those who pay particular attention to the somatic.

Recently, while participating in the opening festivities of METABODY, where I was invited to present my practical and theoretical research<sup>162</sup>, I was able to attend a number of performances by some of the current figures in the field of dance and technology, namely, Jaime del Val, with his work *Microsexes* (2011), Robert Wechsler of Palindrome, with his new interactive design tool *MotionComposer*, Marco Donnarumma with *Hypo Chrysos* (2011), Johanna Roggan with *Emotican*<sup>163</sup> (2013) or Marije Baalman from STEIM, Amsterdam. I was surprised to find that, apart from improving the efficiency of the technology, little or no change had taken place in the aesthetic propositions of live performance since the second period. If the general discourse was moving towards an interest in the potentiality of the performative body through exploring various degrees of mediation and embodiment, thus apparently conforming to METABODY's research mandate, it was difficult to see the artistic development of these theories in practice.

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Figure 36 has been removed due to Copyright restrictions.

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Figure 36: Merce Cunningham, *Biped*, 2000<sup>164</sup>

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Figure 37: Bill T. Jones, Paul Kaiser and Shelley Eshkar, *Ghostcatching* / process, 1999<sup>165</sup>

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<sup>162</sup> On four occasions.

<sup>163</sup> Viewed 28 October 2014, online: <http://thegutscompany.net/project/1>  
Video of *Emotican*. Viewed 28 October 2014, online:

[https://www.youtube.com/watch?v=KRngpOoVBko&index=7&list=PLt2DntePTaorEWr4SQ1Pqa\\_ggF3gbexi4](https://www.youtube.com/watch?v=KRngpOoVBko&index=7&list=PLt2DntePTaorEWr4SQ1Pqa_ggF3gbexi4)

<sup>164</sup> Viewed 24 November 2014, online: <http://www.annamonteverdi.it/digital/nuovi-media-nuovo-teatro/>

<sup>165</sup> Viewed 24 November 2014, online: <http://openendedgroup.com/artworks/gc.html>

Generally speaking, the third period is marked by artists who prioritise the integration of technology in scenography rather than in their research. Their work is nevertheless important, as, according to Sharir, '[i]n the last three decades, clearly, the dance art field has experienced tremendous growth which has produced a number of memorable and ground-breaking works worth mentioning: 'Merce Cunningham'<sup>166</sup>, Gavin Bryars, Paul Kaiser, and Shelley Eshkar's *Biped* (U.S.A. 2000); [...] Bill T.Jones, Paul Kaiser and Shelley Eshkar's *Ghostcatching* (U.S.A. 1999)' (Sharir 2012, p.56). In Sharir's opinion,

[t]hese fine works contributed to the renewed interest in the field of dance and technological mediation. They also answered some questions related to the physical body, which historically resisted the restrictive aspects and the crudeness qualities of the technology as well as the embodiment as machines. They flirted with the subversive qualities of suggested magnified performance [...]. No matter how deeply involved these artists were in the work process, the major question answered was related to the dramaturgy of performance content, internal and external time, and intuitiveness and consciousness (2012, pp.56-57).

These works are important examples. Working in the same vein, other artists of the period can be cited: Gideon Obarzanek (*Chunky Move*)<sup>167</sup>, Troika Ranch<sup>168</sup>, Cie Mulleras<sup>169</sup>, Chris Ziegler<sup>170</sup>, Kirk Woolford<sup>171</sup>, Yushihido Yoshida<sup>172</sup>, Sophia Lycouris<sup>173</sup>, Isabel Valverde<sup>174</sup>, Jean-Marc Matos, Jayachandran Palahazy<sup>175</sup>, Helen Sky<sup>176</sup>, Wolf Ka<sup>177</sup> and Klaus Obermayer<sup>178</sup>.

On the other hand, through events such as the *Somatics and Technology Conference 2012* or the international festival *Bains numériques #1*<sup>179</sup>, I came in contact

<sup>166</sup> Viewed 19 September 2008, online: [http://www.merce.org/thecompany\\_r-biped.html](http://www.merce.org/thecompany_r-biped.html)

<sup>167</sup> Viewed 19 September 2008, online: <http://www.chunkymove.com/AU01.html>

<sup>168</sup> Viewed 19 September 2008, online: [troikaranch.org](http://troikaranch.org)

Brooklyn, New York / Berlin, Germany

<sup>169</sup> Viewed 19 September 2008, online: <http://www.mulleras.com/accueil.html>

<sup>170</sup> Viewed 19 September 2008, online: <http://chrisziegler.de/>

<sup>171</sup> Viewed 19 September 2008, online: <http://www.lancs.ac.uk/fass/lica/profiles/Kirk-Woolford/>

<sup>172</sup> Viewed 19 September 2008, online: <http://www.dance-streaming.jp/>

<sup>173</sup> Viewed 19 September 2008, online: <http://www.ad406.dial.pipex.com/kunstwerkblenddetails.htm>

<http://www.ad406.dial.pipex.com/sophia.htm>

<sup>174</sup> Viewed 19 September 2008, online: <http://www.digitalcultures.org/Symp/Isabel.htm> (personal web site actually unavailable)

<sup>175</sup> Viewed 19 September 2008, online: <http://www.theperiphery.com/collaborations/JayachandranZiegler.htm>

<sup>176</sup> Viewed 19 September 2008, online: [http://www.companynospace.com/front/cis\\_fs.htm](http://www.companynospace.com/front/cis_fs.htm)

<sup>177</sup> Viewed 19 September 2008, online: <http://wolf.ka.free.fr/>

<sup>178</sup> Viewed 19 September 2008, online: <http://www.exile.at/ko/>

<sup>179</sup> *Bains numériques #1*, presented by the *Centre des arts d'Enghien-les-Bains*, France, in 2007, was conceived of a showcase of national and international digital stages. This first version of the Biennale concentrated on emerging forms the digital in dance. As its director Dominique Roland notes:

with people who were reflecting on and exploring new avenues of research with a focus on the experiential. French choreographer Myriam Gourfink<sup>180</sup> whose work on perception and micromovement was analysed in Section 2.8.5 can be cited or Kitsous Dubois<sup>181</sup> who experiments with the performative body in states of weightlessness.

With her work,

[...] she seizes the phenomenon of weightlessness to discover movement, perception of the environment, the feeling of time, the relationship to the material and to others in new ways, as the poetics of an environment in which points of reference are disturbed (Dubois n.d.).

With these last projects, an investment in proprioceptive knowledge and awareness of the inner body serve as the basis for exploring the mediated body and different forms of embodiment. It can thus be assumed that dancers use their innate somatic knowledge to approach these questions, just as former dancer Yacov Sharir had begun to do in the second period of dance and technology. In a similar way, and even if it is a question of an installation involving wearables, one can cite the collaborative work of Susan Kozel with Thecla Schiphorst for *Whisper[s] research project in wearable computing* (2002-2005). Here, through her phenomenological approach and experience as a dancer, Kozel was to 'witness, receive, and interpret the experiences of others in the *Whisper[s]* garments embedded with wearable computers and filter these through [her] experiences of collaborating on the design of the garments and of performing the role of guide in the installation' (Kozel 2007, p.273).

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*Bains numériques #1* was built around an unusual concept: alternating between an intimate presentation of new artistic forms and distanced reflection. The event's goal was to identify, assess and decrypt these emerging forms. Indeed, the introduction of digital arts and new technologies in live performance has led to a modification of the time-space of the stage and audience and therefore to a certain scrambling of codes, perceptions and references for the viewer. [...] [This event] aimed to stage the emergence of a common interdisciplinary language (Dominique Roland, 2006, p.7).

<sup>180</sup> Viewed 19 September 2008, online: <http://www.myriam-gourfink.com/>

<sup>181</sup> Viewed 29 July 2014, online: [http://www.kitsoudubois.com/wordpress/?page\\_id=2](http://www.kitsoudubois.com/wordpress/?page_id=2)

Viewed 3 September 2008, online:

<http://archee.qc.ca/ar.php?page=article&Section=texte2&note=ok&no=299&surligne=oui&mot=&PHPSESSID=4cc7688422b4673e190df7b918251068>

<http://www.etbientot.com/kiprod.html>

Kozel's approach is pertinent for the present discussion because it is hybrid. It includes a phenomenological approach; research integrating the somatic; the theories of Deleuze; and technology addressed in terms of extension. In general, Kozel describes her research as being about, 'what can be discovered and created as we become closer to our computers and closer to others through them, when they become extensions of our way of thinking, moving, and touching' (Kozel 2007, p.xiv). Speaking of *Whisper[s]* in particular, she advances the idea that 'metaphor and physical reality of human connective tissue is expanded to account for "data choreography" across bodies and mobile wireless networked devices. With wearables we can connect with ourselves, with another, or with a wider group of people' (2007, p.xix). A certain resonance can be noted between the approaches of Kozel and Sharir in the sense that they both integrate personal proprioceptive awareness and knowledge gleaned from the somatic.

While attending the *Somatics and Technology Conference 2012*, I was in contact with a number of scholars and artists whose main theme of research establishes links between somatic practices and technology. As Andrea Davidson, organiser of the conference and co-editor<sup>182</sup> for the *Journal of Dance and Somatic Practices* notes, this new area of study reflects 'recent perspectives in art, performance [...] that shed light on new manifestations and imbrications of somatics and technology' (2013, p.3). Davidson further remarks that '[o]ver the past 50 years, it has become common practice amongst academics writing on dance (Sheets-Johnstone 1966, 1980; Levin 1983; Fraleigh 1987, 1998; Kozel 1998, 2007; Lepecki 1998) to reference phenomenology in their description of the dancing body (2013, p.7). Recent research in the choreographic and performative arts investigates various forms of embodied transmission and reception. Even if it is difficult to compare research that is based on foundations so different to my

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<sup>182</sup> Of a special issue on somatics and technology.

own research, I would like to take the time to examine two perspectives on these issues in order to stimulate reflection.

Cecilia Lima, approaches dance itself as a technology of proprioception. For Lima, '[a]s an experiential practice of somatic perception, dance digs into the living matter of what is scientifically currently recognized as the source of self-consciousness and of the thinking process, producing what is commonly referred to as "embodied knowledge" or "embodied thinking" '(de Lima 2013, p.17). Lima describes embodied knowledge as 'sensorial awareness of such know-how. This intensified awareness opens up an experiential understanding of reality as an embodied motion condition' (de Lima 2013, p.17). She attempts to determine what modes of expression such knowledge might take. For Lima, media intensify the sensory experience she is investigating through a 'motional understanding of the world' (de Lima 2013, p.27). This leads to a heightened degree of consciousness due to intensification because,

[t]hrough somatic practices the dancer achieves an intensified access to his or her proprioceptive system wherein he or she vividly perceives the body as in a state of transformation. Such access reveals that the homeostatic condition of the living body does not envisage a stable nature, but it presents the living process as a movement condition resulting from the body's paradoxical need of affect. This embodied awareness proposes a different mode of perceiving (de Lima 2013, p.27).

Lima's research lies at the interSection of these perceptual responses and she questions how they affect our thinking and ways of articulating thought. Her methodology takes into account 'the tacit knowledge of the dancer to develop a deeper perceptive awareness of how the somatic dynamic quality of meaning can be built into our understanding of verbal expression' (de Lima 2013, p.25).

Artist Malaika Sarco Thomas, Senior Lecturer at Falmouth University, presents another interesting angle of research which considers improvisation in dance as 'a technological interface with one's environment' (Sarco-Thomas 2013, p.81). Drawing parallels between performances of her work *Twig Dances* (2010) and life sciences

imaging technologies that map living matter onto still frames, she adopts the equivalent of a postphenomenological approach by relating improvisation scores with image-making technologies. She qualifies these scores as 'invit(ing) corporeal responses to the non-human, and kinaesthetic responses to organic matter' (Sarco-Thomas 2013, p.81). For Sarco-Thomas, they translate as an expression of the mediatisation of our experience in the world. She thus uses somatic practices to reveal potential meaning hidden within ' "excitable" tissues enlivened through improvisational practices' (Sarco-Thomas 2013, p.81). She references the theories of Erin Manning on 'the discussion of performances involving technologies that "extend" the body' (Sarco-Thomas 2013, p.82) as well as on 'altered ways of experiencing one's extended environment' (Sarco-Thomas 2013, p.83). For Sarco-Thomas,

[p]erception-enhancing technologies extend the reach of the body and generate new models of relating. Improvisation-based technologies that encourage movers to take perception seriously and explore affinities for moving "like" another thing can develop the usefulness of our "fleshy antennae" and provoke questions of how far these sensory motilities can be tools for research and communication. Engaging with such technologies through performance has the potential to provoke further examination of the kinaesthetically and affectively charged knowledges produced by one body moving, with curiosity, in relation to another (Sarco-Thomas 2013, p.91).

Andrea Davidson, for her part, provides a few trains of thought that explain and situate the basis of such research:

A return to the Greek word *sōma* (body) and to the root meaning of the word 'aesthetics' – as *aisthēta* (perceptible things) and *aisthēsthai* (to perceive, feel, sense, discern) – can be instructive in this context, as are Thomas Hanna's thoughts on soma: "The soma has a dual talent: it can sense its own individual functions via first-person perception, and it can sense external structures and objective situations via third-person perception" (Hanna 1995, cited in Davidson 2013, p.6). Hanna also remarks, "We cannot sense without acting and we cannot act without sensing" (Hanna 1995, cited in Davidson 2013, p.6). These unique qualities condition all human perception and creation (Davidson 2013, p.6).

Research integrating somatic knowledge with technology is still young and even if few artists elect to look at these questions in depth, it is interesting to note how many different directions their research takes. One of the features that distinguishes my research from others' is that it neither adopts the philosophical position of the extension, nor Deleuze and Guattari's theory of rhizomes (a variation on the idea of extension). Nor does it take a postphenomenological perspective or an interest in language and the



possibility of the body, as for Lima, as being "readable". My approach does not take a third person perspective of what is external, or the environment. It understands it from an internal, sensory point of view; from a first person perspective. This also contributes to investing in intercorporeality because what is "outside" is part of our sensory and perceptual interiority. It also leads to an approach to the mediated body that contributes to the enrichment of the phenomenological experience of the performative body. In turn, as another form of embodiment, it is part of this enrichment.

### **Influences**

To contextualise and situate my practice, it is firstly important to state that my main influences do not stem from the field of 'Dance and Technology'. Rather, they come from new dance, *Butoh*, video art, the work of the Brazilian artist Lygia Clark and my readings. They also come from various trips that put me in touch with multisensory environments with an intensity that I had not encountered previously in Canada.

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Figure 38: Marie Chouinard, *S.T.A.B.*, 1986

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Figure 39: Marie Chouinard, *L'Après-midi d'un faune*, 1987

During the period I studied at Concordia University, I was most influenced by new dance and the performative work of certain solo dancers. When I attended these artists' performances, I was deeply impressed by the way you could see their

relationship to lived experience, their way of investing the 'body from within' in an act of embodiment. These dancers and the works include: Montreal choreographer Marie Chouinard<sup>183</sup> with her solos *S.T.A.B. (Space, Time and Beyond)* (1986) and *L'Après-midi d'un faune* (1987); German soloist Susan Linke; and contemporary *Butoh* artists, and especially the extreme performances of Tatsumi Hijikata, Kazuo Ono and Saburo Teshigawara (Cie Karas). One performance by Teshigawara, *Ishi-no-Hana* (1988), shown at the International Festival of New Dance (F.I.N.D.) in 1989 particularly marked me, in which Teshigawara furiously stomped on broken glass before plunging to his knees as if the glass was rising into his body. *Noh* theatre was also an influence for me owing to its relationship with time that, in my opinion, operates as if the actors were moving, and could move spectators with them, from one time-space to another through their extremely slow movement.

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Figure 40: Gary Hill, *Inasmuch As It is Always Already Taking Place*, 1990<sup>185</sup>

Figure 41: Nam June Paik, *TV Buddha*, 1974<sup>184</sup>

In parallel, Bill Viola's video installation *Migration* (1976), which highlights the act of perception or 'the world within the self, and the self reflected in nature'<sup>186</sup> and Gary Hill's *Inasmuch As It is Always Already Taking Place* (1990) (to image) and *Tall Ships* (1992), had a huge influence on me because of their work on presence, amongst

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<sup>183</sup> Viewed 24 November 2014, online: <http://www.mariechouinard.com/choreographies-solo-avant-1992-114.html>

<sup>184</sup> Viewed 24 November 2014, online: <http://people.ucsc.edu/~rdomezio/naim.jpg>  
<http://www.paikstudios.com/#top> <https://www.youtube.com/watch?v=8s6imG7UJ1Q>

<sup>185</sup> Viewed 24 November 2014, online: <http://imageobjecttext.files.wordpress.com/2012/04/gary-hill-inasmuch-detail.jpg>

<sup>186</sup> Viewed 29 July 2014, online: [http://www.donshewey.com/arts\\_articles/bill\\_viola.html](http://www.donshewey.com/arts_articles/bill_viola.html)

other things, through the medium of video. The analyses of Montreal art critic Christine Ross, professor and James McGill Chair of Contemporary Art History at McGill University, were also instrumental for understanding these works because Ross (1993) describes the phenomenological transfer they operate between the spectator's experience and the video screen, which she describes as an electronic membrane or other kind of skin. The seminal works of video artist Nam June Paik, such as *TV Buddha* (1974), were also important because, for me, they reveal and critique a displacement of the sacred with new technologies.

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Figure 42: Jean-Pierre Perreault, *Joe*, 1984<sup>187</sup>

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Figure 43: Jean-Pierre Perreault, *Joe*, 1984<sup>188</sup>

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Figure 44 has been removed due to Copyright restrictions.

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Figure 44: Jean-Pierre Perreault, *Joe*, 1984<sup>189</sup>

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Figure 45: Jean-Pierre Perreault, *Stella*, 1985<sup>190</sup>

Montreal choreographer Jean-Pierre Perrault was also an influence for me through his work on choreographic structures for masses as exemplified by his creation

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<sup>187</sup> Viewed 24 November 2014, online: [http://ratsdeville.typepad.com/ratsdeville/colloque\\_symposium/](http://ratsdeville.typepad.com/ratsdeville/colloque_symposium/)

<sup>188</sup> Viewed 24 November 2014, online: <http://www.artsalive.ca/fr/dan/meet/bios/artistDetail.asp?artistID=75>

<sup>189</sup> Viewed 24 November 2014, online: <http://surlatracedejeanpierreperrault.blogspot.ca/http://jeanpierreperrault.com/oeuvres/stella>

<sup>190</sup> Viewed 24 November 2014, online: <http://jeanpierreperrault.com/oeuvres/stella>

*Joe* (1984) and especially *Stella*<sup>191</sup> (1985), a work employing a cast of some thirty female dancers. More recently, the work of Brazilian artist Lygia Clark and her experiments with a 'collective body' (during the period she combined activities as an artist and art therapist), deeply impressed me. More detail on specific aspects of Clark's collective body is provided in Chapter 5.

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Figure 46: Lygia Clark, *Máscaras sensoriais*, 1968<sup>192</sup>

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Figure 47 has been removed due to Copyright restrictions

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Figure 47: Lygia Clark, *Baba antropofágica*, 1970<sup>193</sup>

Several American postmodern choreographers also had a great influence on my work through their various approaches and artistic propositions, namely: strategies of chance in Merce Cunningham's collaborations with John Cage; hypnosis and trance in Lucinda Childs' works created in collaboration with composer Philip Glass, which I saw in 1987; and more importantly, the work of Trisha Brown and Steve Paxton, which, for me, are working examples of intersensoriality and Merleau-Ponty's second chiasm.

In a different measure, one that nevertheless underpins my receptivity of more recent practices, I must also cite the works of Picasso, sculptures of Rodin and writings of Michel Trévoz and particularly, *The Painted Body* (1984), where he addresses the issue of the skin as being the first support for creative expression. To complete this list, I should also mention a trip I took to Brazil in 1997, where I experienced the carnival of Salvador da Bahia. There are no words to express the extreme and full multisensory immersion I experienced at the carnival. It forever changed my relationship to dance and the performative body and gave me the chance to dance in a place where the act of

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<sup>191</sup> Video. Viewed 24 November 2014, online: <http://jeanpierperreault.com/oeuvres/stella>

<sup>192</sup> Viewed 24 November 2014, online: [http://www.panoramacritico.com/007/ensaios\\_05.php](http://www.panoramacritico.com/007/ensaios_05.php)

<sup>193</sup> Viewed 24 November 2014, online: <http://raposasasul.blogspot.ca/2012/03/carta-de-lygia-clark-para-o-seu-filho.html>

embodiment is still a sacred act, and in which the interconnectivity of the dancing crowd induces a state of trance that envelops and transports one as part of an enormous collective body. It also gave me the chance to experience what Roger Caillois discusses as a sacred festive event of transgression in *Man and the Sacred* (1950). In Brazil, I also attended *Camdomblé* ceremonies of the goddess *Yemanjá*, as well as regional ceremonies involving *Capoeira*<sup>194</sup>, a three-tridimensional<sup>195</sup> dance if ever there was one, all of which constituted experimentations with transgression.

### 3.3 Summary

To sum up and complete this portrait of the field of dance and technology, the following comments by Yacov Sharir can be firstly cited: '[t]he magnitude of technologically mediated artwork that has been created in the last forty years is indeed impressive. What is most significant, however, is the increased interest in how the use of new technologies impacts traditional dance' (2012, p.56) and, may I add, performance art. In the introduction to *Somatics and Technology*, Andrea Davidson analyses the breadth of the journal's contributions which were drawn from current research on the theme of somatics and technology:

[...] each in their own way, identify and explore possible interconnections between embodied knowledge and conceptual processes involving new media. They notably demonstrate how artistic and therapeutic practices today are challenging philosophical, aesthetic and technical paradigms of the past and "revealing" new modes of perception in dance practices, highlighting dance's understanding of the body and particularly, the role of somatics can play in any conceptualization or construction of knowledge in a technological society (2013, p.7).

The research presented in this thesis follows these tendencies, and also participates in the research efforts of an entire community of dancers whom, each in various ways, investigate the relationship of the performative body and technology. It was on the basis

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<sup>194</sup> Viewed 24 November 2014, online: [http://www.dailymotion.com/video/xyhrrc\\_roda-de-capoeira-em-salvador-1973\\_sport](http://www.dailymotion.com/video/xyhrrc_roda-de-capoeira-em-salvador-1973_sport)

[http://www.dailymotion.com/video/x2ee2k\\_videos-capoeira-brasil-batizado\\_sport](http://www.dailymotion.com/video/x2ee2k_videos-capoeira-brasil-batizado_sport)

<sup>195</sup> The notion of tridimensionality is picked up again in Chapter 5.

of my recent research that I was invited to participate in a communal reflection on the subject at the *Somatics and Technology Conference 2012*, and again, in the publication *Somatics and Technology*. The findings of this thesis resonate with the lines of research presented in these two events that were summarised in the following way by Davidson:

If, for most humans, the proprioceptive sense is largely ignored, for the dancer and choreographer, heightened sensori-perceptual awareness constitutes a pertinent means of penetrating, extracting and communicating what might otherwise remain unnoticed [...].

[...] somatic practices, as technologies of presence and conscious sensorial awareness can enrich the practical research process and its outcome [...].

[...] the vibratory [...] nature of the body and the dancer's ability to sense internal, micro levels of energy/movement which usher from a mutually embodied and dynamic interoceptive/exteroceptive activity that 'affords' heightened interaction with the environment; again be it mediated or not.

[Choiniere's project] demonstrate how the integration of new media, far from destabilizing or detracting from dance's inherent features enables new multisensorial and embodied dimensions in performance. Further, they [Brown's, East's Spies/Emslie's and Choinière's] point to how technological interfaces allow for a 'multipleness' of presence in contemporary creation and new forms of presence that can be shared with spectators (Davidson 2013, p.11).

My doctoral research participates in this dynamic by revisiting the relationship between dance/somatics, and more broadly speaking, the performative body, and technology. The next chapter presents an analysis of the methodology adopted for the thesis and highlights certain problems with existing methodologies in Practice as Research, that point to a need for investing in new methodological modes of an interdisciplinary nature. Chapter 5 then presents an adaptation of these methods I made in order to meet the dynamics of the collective and empathic mode of enquiry specific to my research project and which describes the relationship between somatics and technology proposed in this thesis.

#### **4. CHAPTER IV – A METHODOLOGY FOR PRACTICE AS RESEARCH IN THE FIELD OF DANCE AND TECHNOLOGY**

##### **4.1. Towards a methodology of transformation: presentation of the problematics and methodological foundations of my practice as research**

###### **Introduction**

In the previous chapter, the motivations and main aspects of my artistic approach were outlined. In this chapter, consideration is given to how this artistic approach both conditioned and is thus intimately linked to the methodology adopted for the research conducted within the framework of the thesis. So doing, it proposes an alternative evolutionary type of methodology involving a process of collaborative research based on empathy. This chapter looks at the principles and foundations on which this methodology was built. But before beginning, I will address what I consider as a central issue: that of linking paradigms and methodology. This constitutes one of the theoretical nodes developed in this first section.

In the course of researching for a methodology for my creative work, I was able to identify four main problems, all interconnected, that existed with models that were proposed to me, of which the first, points to an important lack of references regarding methodologies for creative research in general, and specifically, in terms of *Practice as Research (PaR)*. According to Leonore Easton, professor at *La Manufacture – Haute*

*école de théâtre de Suisse romande* and author of *Rapport sur les méthodes utilisées en recherche artistique dans le domaine des arts de la scène* (2011)<sup>196</sup>,

[t]he terms most frequently used to describe artistic research are: 1-*Practice-based research (PBR)* is a broad term which covers all forms of practice-oriented research; 2- *Practice-led research (PLR)* is the term that now seems to have replaced that of PBR in artistic research. It denominates research that focuses on the artistic process; 3- *Practice as Research (PaR)* is more explicit because this term expresses the notion of a direct link between research and practice. Here, practice is an integral part of the research process and its results (Easton 2011, p.3).

The term that best corresponds to my process is that of *Practice as Research (PaR)*.

### **A first problem: the lack of methodologies for creative research**

The scarcity of methodologies for creative research points to a gap to be filled in this area, a problem that has been noted by several key English-speaking authors. In the field of dance, authors such as Sondra Horton Fraleigh (1987, 1998) and Susan Kozel (2007) can be cited. Other authors from a broader anglophone context in the United Kingdom and Australia include: Robin Nelson, Director of Research at the Royal Central, School of Speech & Drama, University of London, and author of *PaR in the Arts: Principles, Protocols, Pedagogies, Resistances* (2013); Hazel Smith of the Writing and Society Research Group at the University of Western Sydney, and Roger Dean, Research Professor at MARCS Auditory Laboratories, University of Western Sydney, authors of *Practice-led-Research, Research-lead Practice in the Creative Arts* (2009); Estelle Barrat, Associate Professor and Honours Convenor at the School of Communications and Creative Arts, Deakin University, and Barbara Bolt, Senior Lecturer at the Victorian College of Arts Graduate School, University of Melbourne, and authors of *PaR: Approaches to Creative Arts Enquiry* (2010); and Roy Ascott (2006).

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<sup>196</sup> Viewed 18 may 2014, online: <http://www.hetsr.ch/upload/file/Rapport%20me%CC%81thodologie%20recherche%20artistique%20Leonore%20Easton.pdf>

Viewed 13 August 2014, online: [http://arts.brighton.ac.uk/data/assets/pdf\\_file/0018/43065/Practice-Led\\_Review\\_Nov07.pdf](http://arts.brighton.ac.uk/data/assets/pdf_file/0018/43065/Practice-Led_Review_Nov07.pdf)  
<http://www.sharenetwork.eu/home>



In France, Patrice Pavis, professor of Theatre Studies at *Université Paris 8* and specialist in research methodologies for performance/theatre in France and author of *L'analyse des spectacles: théâtre, mime, danse-théâtre, cinéma* (2005) can be referenced. In Quebec, the following scholars can be cited: Pierre Gosselin, professor and researcher of pedagogy and methodology in the arts at *Université du Québec à Montréal* where, amongst other works, he co-edited the book *La recherche création; pour une compréhension de la recherche en pratique artistique* (2009) along with Eric Le Coguiec, a scholar investigating research methodologies for art at *Université du Québec à Montréal*; Louise Poissant, Dean of the Faculty of Arts at *Université du Québec à Montréal* and director of the *Centre interuniversitaire des arts médiatiques* (2009); Sylvie Fortin, a certified Feldenkrais practitioner and professor in the Dance Department of *Université du Québec à Montréal* where she created a diploma program of graduate studies in somatic education (2009); and Sophia L. Burns, a scholar investigating art research methodologies at *Université du Québec à Montréal* (2009).

These authors' conclusions were also highlighted in recent conferences on methodologies for creative research including the conference *La recherche-crétation; territoire d'innovation méthodologique*<sup>197</sup> that took place at *Université du Québec à Montréal* (19-21 March 2014), or the International Symposium on Dance Research *Rethinking practice and theory*<sup>198</sup>: a joint conference (21-24 June 2007) sponsored by the Committee on Research in Dance (C.O.R.D.) affiliated with the State University of

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<sup>197</sup> Viewed 10 April 2014, online: <http://www.methodologiesrecherchecreation.uqam.ca/>

<sup>198</sup> Viewed 13 August 2014, online: [www.cnd.fr](http://www.cnd.fr) / [www.cord.org](http://www.cord.org) / [www.sdhs.org](http://www.sdhs.org)  
<http://www.cnd.fr/agenda/212171/#english>

New York, Brockport, United States and the Society of Dance History Scholars (S.D.H.S.) in collaboration with the *Centre National de la danse* (C.N.D.)<sup>199</sup> in Paris.

According to Leonore Easton, who makes an analysis from the point of view of an arts practitioner,

[w]hat emerges from the debate on questions of methodology in PaR projects to date is that artistic research has not yet elaborated or defined one or a set of methods that it can call its own, other practice itself. [...] PaR is currently still in the process of finding a methodology and to do so, it borrows "tinkers with" ("*bricole*") and experiments, [...] the goal of PaR, even if it develops new knowledge, is not necessarily to provide answers or evidence, but rather to consider new forms of understanding (2011, p.24).

I agree with these observations and definitions. The methodology I experimented with for this thesis was precisely oriented towards other forms of understanding and with the goal of opening up a new space for reflection. According to my research, the arts practitioner has no other choice but to invest in the understanding and development of a methodology that reflects and serves his/her practice. Susan Kozel delivers her vision of this issue, describing the position she found herself in as an artist-researcher investigating the relationship of dance and technology:

[i]n fact, the act of distancing myself from the academic world of philosophy, in order to work and teach as a dance artist collaborating across disciplines using a range of computer technologies, made me see the increasing relevance of a modified phenomenological approach, even the necessity of developing thoughtful and philosophically well-grounded first-person, or subjective, approaches to research. This seemed particularly true when collaborating on artistic projects with both low and high technologies: we needed to figure out what we were doing while we were doing it. We were short of precedents. [...] What was lacking were methodological precedents (2007, pp.14-15).

I share Kozel's dismay because I, too, experienced the same lack of references and difficulty in understanding relationships that were both complex and new as they emerged with every step of my research.

Thus, the vast majority of authors (Kozel 2007; Easton 2011; Smith & Dean 2009; Ascott 2006<sup>200</sup>; Pavis 2005; Gosselin 2009; Le Coguiec 2009; Fortin 2009; Burns

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<sup>199</sup> Organizers: Centre National de la danse (C.N.D.), Congress on Research in Dance (C.O.R.D.) and Society of Dance History Scholars (S.D.H.S.).

2009; Poissant 2009) have come to the conclusion that it is absolutely necessary to innovate methodologies for creative research and that artists and researchers must invent and propose other types of methodologies consistent with their respective disciplines and artistic practices. According to Burns (2009), the first thesis to present and be presented as an artistic creation dates back to 1970. If several reasons (and myths) (Bruneau 2009, p.51-52) push practitioners to engage in doctoral research, accepting the specific work that methodologies demand (Fortin 2009), the type of methodology which most resembles my process is one motivated by a desire to identify as quickly as possible the key concepts of my creative process in order to improve practice (Laurier 2009).

### **A second problem**

Referring to Burns (2009, p.60), who analyses these issues from the point of view of a practitioner in the visual arts, and then to reflections of a doctoral student at the *Université du Québec à Montréal*, on artistic practice as research, a second problem my research identifies is that methodologies for artistic creation are often neither based on, nor reflect, atavisms, affiliations, history or the rites of the artist work in terms of particular disciplines and their paradigms. It is therefore important to correct this situation. I agree with the conclusions Burns arrives at and they support one of the first arguments I employ here to defend the evolutionary methodology this thesis proposes.

### **A third problem: the valorisation of objectivity in classical Western thought**

In the context of academic research, another basic problem can be linked to classical Western thought that values objectivity and the fact that all research which is

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<sup>200</sup> This is the position expressed by Roy Ascott at, amongst others, three sessions of the Planetary Collegium doctoral seminar presented at the University of Arizona, College of Fine Arts, Tucson, Arizona, at Plymouth University, United Kingdom, and the *SESC/Premio Sergio Motta de Arte e tecnologia*, São Paulo, Brazil, in 2006.

not based on this criteria is considered of little value for the advancement of knowledge (Laflamme 2009). According to Laflamme (2009), who founds her analysis as a practitioner participating in a collaborative study led by Pierre Gosselin<sup>201</sup>, the break with the Greek notion of *métis*<sup>202</sup>, 'a type of intelligence occulted by classical Greek thought' (2009, p.74), created the problem of a devaluation of alternative forms of cognition such as those stemming from the body. This issue reinforces the pertinence of creating an appropriate methodology for artist-researchers in an academic environment (Laflamme 2009). Gardner's theories, emphasising the importance of recognising multiple intelligences, highlighted in Section 1.8, form a complement to this view.

The Greek concept of *métis* is examined in the research of D  tienne and Vernant (1974, cited by Laflamme 2009). *M  tis* is a form of intelligence and way of thinking produced by certain mental attitudes. Multiple and multifaceted in nature (for example: flair, wisdom, resourcefulness, *et caetera*), these qualities of intelligence apply to 'changing realities that do not lend themselves to precise measurement nor to rigorous reasoning' (1974, p. 75). Anchored in becoming and action, this form of intelligence was eradicated from Greek philosophical thought from the fifth century onwards:

[o]n behalf of a metaphysics of being and the immutable, the conjectural know-how and oblique knowledge of the skilled and cautious were rejected on the side of lack of knowledge [...]. The intellectual universe of the Greek philosopher, unlike the Chinese and Indian thinker, supposes a radical dichotomy of being and becoming, the intelligible and the sensitive (D  tienne and Vernant 1974, p.11, cited in Laflamme 2009, p.75).

D  tienne and Vernant's propositions also support Christine Buci-Glucksmann's<sup>203</sup> conclusions concerning what she calls the 'thought of form' (2003, p.88) which she denounces as being frozen and no longer representing the unstable and transitional spaces in which people live today. D  tienne and Vernant's propositions can also be

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<sup>201</sup> Cited above.

<sup>202</sup> A few examples of artists who entertain a *m  tis* way of thinking as the basis for their practice include Isadora Duncan, Steve Paxton, Tatsynu Hijikata, the founder of *Butoh* with his work *The Revolt of the Flesh* (1968), Brazilian artists Helio Oiticica and Lygia Clark and Italian choreographer Maria Donato D'Urso.

<sup>203</sup> Presented in Section 2.8.1.

related to the concept of corporeality which integrates movement and openness as fundamental conditions integrated in the strategies underpinning my methodology.

The dichotomy, duality and fragmentation of the Western analytic tradition has been noted by scholars in the context of science (Koestler and Smythies [1969] 1971; Smythies, J.R. [1969] (1971); Ho 1993) as well as in the fields of aesthetics and philosophy (Buci-Glucksmann 2001; Burnham [1968; 1969] 1973; Davidson 2013; Koziel 2007; Fraleigh 1987; Gromala 2007; Nobrega 2009). Denouncing such dichotomy, their various theories also reflect Buci-Glucksmann's conclusions concerning flux and the transitional which were discussed in Section 2.8. Following the logic of integrative thought defended in this thesis, it seems appropriate to suggest that practitioners of art have no other choice than to invest in the understanding and development of a methodology that reflects and serves their individual practices.

#### **A fourth problem: finding a methodology that reflects the artistic paradigms of its creator**

The fourth problem identified by this thesis has to do with the fact that the methodology adopted should reflect the creative research paradigms proposed within the researcher's discipline and, as Laflamme notes, 'consequently, corresponding to artistic paradigms which his creative work refers to' (Laflamme 2009, p.60). Current methodological models used in the academic field for the study of artistic practices are largely those of phenomenological<sup>204</sup>, heuristic<sup>205</sup>, systemic<sup>206</sup> or autobiographical<sup>207</sup>

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<sup>204</sup> Classically, this implies a description for understanding the essence of a phenomenon from an external point of view and not from an internal one. In the performing arts (and especially in theater), a view from a distance, that of the spectator. However, I must emphasize that in the field of choreography, this method was subsequently used to describe the point of view of choreographic experience and that of dancers. This topic is discussed in this chapter at greater length.

<sup>205</sup> The heuristic is understood here as a form of phenomenological research highlighting the subjectivity of the researcher. Essentially, the heuristic approach oscillates between the poles of experiential subjectivity (exploration) and conceptual objectivity (understanding).

approaches (Laurier 2009), which stem mainly from the humanities (not to name those related to scientific disciplines). These methods are rooted in paradigms that are completely different to those of the performing arts incorporating new technologies and which deal with, amongst other things, the carnal and mediated body. This thesis nevertheless references phenomenological approaches used to describe dance while also expanding on the modified phenomenological approach taken by Kozel (2007) with respect to the field of dance and technology.

The methodology I propose here attempts to solve the problems raised by traditional approaches to practice as research. Firstly, it is built on the foundations of a personal artistic approach. Part of the structuring of this thesis reflects the interconnectedness of the general framework of my research and its specific context. This structure also underpinned the process inscribed in my practical research. For example, the general context of the virtual as a concept can be situated in the theories of Lévy (1998) where the virtual is described as the potentiality present in the seed of a tree, a force that is becoming. The specific contextualisation of this idea in this thesis lies in the development of the concept of a corporal potentiality that can be activated by strategies destabilising sensory-perceptual which oblige the performer to reorganise, and thereby to develop his/her physicality in order for corporeality to emerge. Another example can be seen in the technique of Contact Improvisation which constitutes a general framework, with the development of techniques for transferring one's center of gravity, amongst other things, constituting the specific context that is developed and tested in my research.

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<sup>206</sup> This approach invites the researcher to represent or to create a model for the complexity he/she seeks to understand. Often in art, the complexity to be analysed is the practice in which he/she is engaged. It is a description for understanding of formal dynamic.

<sup>207</sup> This approach constitutes a modality for the production of knowledge centered on the life story of the person writing. Its goal is to gain an understanding of phenomena studied through the prism of narrative production in the form of autobiographical material.

My methodology also reflects the three paradigms presented as hypotheses in the thesis: an aesthetic paradigm concerning flux and the transitional; a paradigm of communication based on intersubjectivity of a bodily nature; and a cognitive paradigm which is rooted in the revaluation and reintegration of the body's specific intelligence. This last paradigm in particular, was to have direct repercussions for both the creative work presented and the thesis' theoretical research. Hence, the methodology of revelation, or transformation, that I propose, emerged from and was intended as being transversal, evolutive and syncretic in nature.

#### **4.2 An evolutive methodology: a process of collaborative research based on empathy as a creative tool**

##### **4.2.1 A methodological strategy inspired by phenomenology and an empathic dynamic**

The phenomenological approach, with its double perspective of the world, one that is both perceived and lived, is considered by Stanton B. Garner Jr., professor in the Department of Theatre at the University of Tennessee, Distinguished Professor of the Humanities in his book *Bodied Spaces: Phenomenology and Performance in Contemporary Drama* (1994). Garner regards the phenomenological approach as being most appropriate for studying the experience of the performer in the context of live performance advancing the view that '[...] the performative space is the environment subjectified by the performer living this space of his corporeality' (1994, p.3).

Phenomenology, as presented by Husserl and later by Merleau-Ponty, takes as its starting point the experience of the individual in his/her environment. Focusing on the

study of experience from the "inside" rather than from an outside point of view, phenomenology is particularly relevant for the observation of the performer's experience which, first and foremost, involves the individual. For Husserl, perception puts us in a relation with the world, perception "gives" the world to us in a first person relationship: 'I am aware of a world, stretched into infinity, becoming space and time, which becomes endless. I discover it immediately, intuitively, I experience it through my vision, my touch, my hearing, *et caetera*' (Husserl 1970, cited by Garner Jr. 1994, p.26). Perception is experienced from the inside.

Husserl thus defends a position of subjectivity in the study of the experience and the perception of 'lived experiences of consciousness' or phenomena. Subjective processes underpin the direct experience of the individual who coexists with a world that is 'becoming', who inhabits it. The place of lived experience thus becomes the internal and carnal body of the performer, his corporeality. Further, phenomenological perception is a conscious and therefore subjective perception. Phenomenology considers consciousness as intentional.

#### **4.2.2 Phenomenological methodology in the field of dance**

In the field of dance, the model of a phenomenological methodology was first presented by Sondra Horton Fraleigh in *Dance and the lived body* (1987) and in an article published in *The Routledge Dance Studies Reader* entitled 'A vulnerable glance: seeing dance through phenomenology' (1998). According to Fraleigh (1998), a phenomenological methodology consists of two levels, the first in which,

[p]henomenology develops unpredicatably, according to the contents of consciousness. [...] it is present-centred in its descriptive aims, accounts for temporal change and does not have appropriate and inappropriate topics. [...] Its second level develops philosophical perspectives from the seed of consciousness (1998, p.135).



For Fraleigh, one of the principles that guides all phenomenological approaches '[...] derives from Husserl's repeated assertion that "consciousness is always consciousness of something. Consciousness he held, was the necessary condition for experience, or experience is presupposed by consciousness" ' (Husserl 1931, cited in Fraleigh 1998, pp.136-137). Thus, for Fraleigh, it is consciousness which unifies experience that is studied or accounted for by this methodology (1998, p.137).

The phenomenological approach as a methodology can be adopted in dance to,

[...] describ[e] a phenomenon (a dance or a dance experience for instance) as though seeing it fresh for the first time. [...] Phenomenology is at best an effort to remove bias and preconception from consciousness. It aims to describe though some direct route, not to analyse and theorize (at least not in the beginning), but first to describe the immediate contents of consciousness. Phenomenology strives to capture pre-reflective experience, the immediacy of being-in-the-world. [...] One of the major purposes of phenomenological description is to build towards meaning. Then others may be able to see what you see, or at least understand what you see. [...] The truths of dance are not scientific or irrefutable. They are of another order, created by the choreographer, the dancer, the audience and the critic (1998, pp.138-139).

Fraleigh continues, explaining that the phenomenological method can be used,

[...] to describe the experience of dance as it is lived [...] [Phenomenology] utilizes self-evidence [and this methodology] seeks to describe what is basic to the phenomena being considered (1987, p.xiv).

[...] I also understand, through Husserl and Merleau-Ponty that consciousness is intentional; it depends on one's perceptual attention to phenomena. Phenomenology stresses that consciousness is an activity, not a passivity (1987, p.7).

The issue of active awareness is very important in the methodology proposed in this thesis. It is a fundamental principle that was applied with the performers and also with the academics involved in my research process. These methodological principles are presented later in the chapter.

As a phenomenological methodology seeks to get to the root of phenomena, it is nevertheless difficult to describe what is subjective without being influenced by habits of dualistic thinking so common in Western cultural heritage. Verbalising the experience of movement is also a problem in the field of dance, one that I have experienced in the studio when asking dancers to communicate what they are feeling.

The phenomenon of 'self-transformation' is particularly difficult to verbalise as it is experiential and reflective. Conscious of this difficulty, and having experienced it myself, I integrated awareness of these changes in my methodology with the dancers, also spending time helping them to verbalise this transformation so they could communicate it to the public and to the researchers involved in the process of the thesis.

Let us now turn to looking at how the phenomenological method can be adopted and modified to capture the performative experiential reality of dance and technology.

#### **4.2.3 Phenomenological methodology in the field of dance and technology**

In the context of this thesis, I looked for research that applied methodologies adopted in the performing arts, dance, and particularly somatics, and then integrated them in approaches to technology. To date, few authors have conducted such research. Although the work of those who have done so is very interesting, most have worked on bases or elements that have little to do with my own work. For example, Ali East bases her methodology on the relationship between the technology of film and the somatic. The intention behind her methodology is to understand, 'what sensual interactions with the physical landscape teach us about ourselves [...] [and] how we might share this experience with others through the filmic medium' (2013, p.58). Malaika Sarco-Thomas examines dance improvisation as a technological interface, drawing comparisons between improvisation scores and image-making technologies while at the same time, adopting a postphenomenological perspective. Cecilia de Lima develops a choreographic methodology she calls 'Trans-meaning' (2013, p.18) which aims to understand 'how to coordinate the dynamic logic of the somatic ecosystem with the formal logic associated with verbal language' (2013, p.18). Although to date, her research is more theoretical than practical, she explores links between the dancer's phenomenological experience and contemporary theories of cognitive science.

### **A lack of clarity in the methodological legacy of Merleau-Ponty**

One methodology for practice as research that has many points in common with my own is that of Susan Kozel. Her approach takes into account Merleau-Ponty's methodological legacy and also draws on Fraleigh's analysis of this methodology as applicable in the field of dance. She then adapts them to her own practice which involves a relationship with technology. This said, Kozel notes that the biggest obstacle in borrowing from Merleau-Ponty's phenomenological methodology 'is a lack of clarity concerning the conversion of theory into practice' (Kozel 2007, p.48).

My experience shows that this problem also arises in the conversion of practice to theory. Earlier in this section, it was noted how difficult the phenomenological experience of the dancer is to translate into words, and how I, too, had to deal with this problem. Language and the experiential are two different forms of expression and time is necessary to find words that reflect, in a small way, lived experience. Moreover, I question the validity of the term 'conversion' because is it really a question of conversion? Or rather one of a multisensory and multimodal experience that has different channels of understanding? I do not claim to be able to fully answer these questions, but the series of experiments that are described in Chapter 5 aimed, at least partially, to explore this situation.

### **A modified phenomenological methodology**

To return to Kozel, her modified phenomenological methodology is very interesting and useful in the framework of this thesis. My approach shares many similarities with her method, while other elements manifest different characteristics and specificities. Kozel developed and tested her methodology throughout years of practice. She also invested in this process because it had become clear for her research needs,

[...] that a compelling approach to the validity of the subjective position in research was needed; a respect for the lived experience of the scientist, researcher, artist, designer, and writer, and an acknowledgment of the sometimes anarchic results borne from the marriage of perception and imagination in the process of thinking and doing. It also became clear that the perspective of dance and philosophy provides an authentic stance from which to reflect upon the wider implications of human bodies using digital technologies, filling a gap in scholarship and in broader cultural discourse around digital technologies (2007, p.12).

She also highlights the problem of verbalising lived, or subjective, experience and its link to corresponding paradigms:

[w]hen our existing conceptual paradigms no longer do justice to our range of experiences, there is the choice to abandon entirely the process of reflection, just TO BE, without the need to understand and reflect, or to attempts to find other paths of reflection. The viscosity of this sentiment, and its stubbornness, can be mapped onto an intellectual climate where there are few conceptual paradigms for translating lived, embodied experience into the professional discourse of the academy. Writing from lived experience often amounts to writing without a clear methodological mandate, or demands the courage to assert that the methods are fluid and subjective. Paradigms are scraped together (defiantly, guilefully, playfully, intuitively) from philosophy, literature, the social sciences, physics. This *bricolage* or hybridization is done in part to find a voice in the academy, but more important, to help the writer herself understand what it is that she is experiencing and to communicate these experiences (2007, pp.8-9, original emphasis).

What our 'embodied' methodologies have in common is that they were tested in order to understand, express and share what is experiential. According to Kozel, '[t]he extension of lived experience happens [...] by exploring the depths of our relationships with others [...] [and] also to share this knowledge with others (2007, p.16). Testing a methodology based on phenomenology required, both for myself and for Kozel, developing the ability to release,

[...] our rationalist structures of meaning sufficiently to permit qualities that are associated with the pre-rational. [...] The pre-reflective does not negate reflection but indicates a dynamic ontological state of entwinement or entanglement between the two [pre-reflective and reflection]. It is not a steady state; it appears and vanishes, in a constant sliding exchange with reflection (Kozel 2007, p.19).

Having made these observations on the principles underlying Kozel's phenomenological methodology in the field of dance and technology, which also resonate with my own motivations, a presentation follows of principles that are more specific to my particular methodological approach. Later, at the end of this chapter, I return to our two processes, examining in detail their similarities and specificities with respect to an adaptive modification of the phenomenological method; an adaptive

process that searches to meet the specific needs of research linking the somatic with technology.

### **4.3 Presentation of the foundations of my methodology**

#### **Lived experience**

At the centre of the phenomenological dimension of stage space, that is, as it is perceived and inhabited, Sondra Horton Fraleigh (1987) situates the performer's corporeality as signifying the locus of the lived experience of dance. I refer to this locus for perspectives that are appropriate for analysing the performer's experience, starting with observations stemming from "within" and not from a distance.

The notion of experience is established in the phenomenological approach. The lived experience of the performer corresponds to the conscious and active perception of his/her corporeal self and of an environment that is shared with others. This observation is useful for speaking about my work because if one looks at how I created the concept of a physical and mediated collective body, one finds that the lived experience of the performer is here modified because his/her reality encompasses both mediated and real, lived experience. Experience, also in the sense of experimentation, is 'a test that dynamises creation' (Roux 2007, p.122). The artist who works with the moving body in relation to technology 'puts him/herself in danger, challenges his/her expertise in order to increase self-knowledge and knowledge of the world in order to live them better' (Roux 2007, p.122).

In my work, the dancer who adopts a performative attitude of experimentation, intentionally engages his/her corporeality in the act of perception within a fluctuating

environment, that I, as a choreographer, have deliberately disrupted. Further, and to paraphrase Merleau-Ponty, sensations traversing the corporeality of the individual performer are not given as an event in the world, 'but as a re-creation or re-construction of the world at every moment' (Merleau-Ponty 1945, p.240). This world is that of his/her performance, of his/her own transformation, of an intersubjectivity which is also an intercorporeality that integrates the Other. From these observations, I propose that experimentation with the relationship between the moving body and technology is the starting point for a new sensory experience.

Audrey-Anne Bouchard<sup>208</sup> (2011) observed this state of risk in my work and reports the following:

[t]he transformation of sensory experience of the performer [Isabelle Choinière], occurring during her interaction with the projected virtual body<sup>209</sup>, rises from the invisible before being seen in an unpredictable gesture [...]. In her research, Isabelle Choinière creates an encounter with the projected body in order to explore "the body's ability to give of itself, to construct and rebuild itself in an act of continual transformation" (Tourangeau 1994; Pitozzi 2010a, cited in Bouchard 2011<sup>210</sup>). [...] In the interaction, Choinière transgresses her own perceptual memory and discovers, in the extension of her corporeality to that of an intercorporeality, the potentiality of her virtual state. Proprioceptive adaptation to the projected body, and the sensory reconfiguration of the performer exist inside her corporeality as invisible dimensions of her virtuality. The virtual is a vibration, a potential transformation of reality that corporeality holds [...]. In her interaction with this virtual other, the performer, conscious of the process of altering her sensory and choreographic experience, appropriates the power of her own virtual state to express and reclaim a different and renewed image of a body. The projected body becomes an ally to the inner/outer, invisible/visible, self-transformation of the performer who, through her open and virtualized corporeality, accesses the potential of "becoming another" (Bouchard 2011, p.59-60).

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Quotation have approval to be used

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Bouchard's conclusions about my work implying a process of self-transformation reflect those of Roux (2007), Lehmann (2006) or Rieusset-Lemarié (2005). Their observations support the results of my experimentation with the concept of a collective physical body and mediated sound body described in Section 2.8.5 and further analysed in Chapter 5,

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<sup>208</sup> Bouchard did a case study on my telematic performance *La Démence des anges* (2000-2005) and studied the last phase of my practical research. If these conclusions are based primarily on her study of *La Démence des anges*, during a meeting on July 29, 2013, she claimed that these same conclusions applied to the last phase of my current research.

<sup>209</sup> A projection in real-time with a performer situated in another place.

<sup>210</sup> This quotation is taken up by several authors. It was written by art critic Sylvie Tourangeau after the presentation of *Partage des peaux* (the first version of *Communion*, my first creation). It was then taken up by Enrico Pitozzi while studying *La Démence des anges* and the final stages of my research work-creation, only to be taken up by Audrey-Anne Bouchard in her study of *La Démence des anges* and the last two phases of my practical research.

which show that changes in perceptual modalities occur for both the performer and spectator. They also concern an ontological shift in the description of the body when it is subject to strategies involving technology. Earlier, it was shown how empathy and the performative attitude are founding dynamics of this shift and how the theories of Rolnik on the fragility and dissolution of psycho-physical borders, as well as Buci-Glucksmann's theories on the invisible and the interval reinforce my proposal of this ontological shift.

An introduction to the methodology underpinning my practice as research and a description of how it was created and tested during the period of my doctoral studies follows in the next section. This methodology is personal and notably concerns a process of collaborative research based on empathy and on the notion of personal risk-taking.

### **Presentation of principles and strategies underpinning my methodology**

My research, both theoretical and practical, was in part conducted with a methodological tool I developed that I designated the *Observatory*. Involving collective research based on an experimental and dynamic process of critical research, it implied evolutive and adaptive analyses based on an interactive relationship between the production of theory and practical work. This even included members of the *Observatory physically* experiencing the mediated environment. The results of my research demonstrate that this methodology can be used as a tool to enhance the creative experience. Here, the creative process is guided by critical feedback which participates in an enriching collective collaborative experience. This approach is grounded in a trans-disciplinary and syncretic creative process, taking place in several locations around the world with teams of researchers from different universities and nationalities.

It is a process of creative exploration that is extremely rich, first developed intuitively and later, becoming more structured. My intention was to see how the creative strategies put into play in my practical research could include and transmit a logic of evolutive research that interested me.

To grasp this evolutive logic of research, it is necessary to develop an integrative approach, or a different way of approaching and thinking about the world. As introduced in Section 2.2 and according to references made to Koestler ([1969] 1971) and Ascott ([1966-67] 2003), in order to overcome the legacy of reductionist thinking, one must enter into a new logic of interconnection that is appropriate. This was my point of departure and also constitutes another theoretical node that will be developed in this section.

My practical research was conducted in a step-by-step process, (Study #1 in 2005, Study #2 in 2006, Study #3 from 2007 to 2008), with each stage of the creative process taking the form of a laboratory exploring the experience and modification of corporeality<sup>211</sup>. When I speak of a modification of corporeality in this context, I refer to the corporeality of all those who participated in the laboratories: the performers, the conceptors and the researchers. With this approach, I invited researchers to participate in the artistic process, placing them in a situation of risk in the same way as the conceptors and performers.

The chosen researchers all had one point in common: they had contacted me to study my artistic work, either in the framework of their own academic activities or as cultural critics. They constituted a research group I initiated to examine questions of

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<sup>211</sup> This thesis mainly analyses a third phase of creation which took place during a residency at the *C.D.C - Centre de Développement Chorégraphique*, Grenoble, France, in the spring of 2008. It should be noted that the composer Dominique Besson and her team only participated in this third phase of creation.



new contemporary performative practices involving technology. The participants issued from existing research groups such as the *Performativité et effets de présence* at *Université du Québec à Montréal*, *Presence Project*<sup>212</sup> at the *Centre for Intermedia*, Exeter and *Groupe SCÈNES: Systémique, complexité et nouvelles écritures scéniques* at *Université Laval*, Quebec. They were all studying issues of contemporary performative scenes involving new technologies, and also all had had experience with some corporal practice (some as children of choreographers, some practicing the martial arts, yoga or meditation). The collaborative research I proposed created a bodily space of resonance, empathy, when they attended rehearsals or theoretical sessions I planned; notably in Montreal in March, May and November 2009, all of which have been documented<sup>213</sup>.

### **Proprioceptive experience as a guideline for research on the body**

It is interesting to note that it is only recently, that the work of researchers and dancers in the field of somatics (Fortin<sup>214</sup> 2009, p.111) has been considered as a valid source of knowledge in the academic field when combined with other theoretical approaches. One example is Hubert Godard's methodology that adopts somatics as a complement to other forms of research and particularly, his research in medicine. It should also be pointed out that Hubert Godard<sup>215</sup> was first a dancer and later co-founder of the Dance Department of *Université Paris 8* where he teaches movement analysis.

In an interview with P. Kuypers, Godard states that, 'anatomy is taken as something absolute, whereas, there is a phenomenological experience of movement that

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<sup>212</sup> Directed by Gabriella Giannaghi and Nick Kaye. Viewed 8 August 2013, online: <http://presence.stanford.edu:3455/Collaboratory/9>

<sup>213</sup> These documents are provided in the Appendices in the form of transcriptions of discussions. With the strategy of methodology described, other, more spontaneous, encounters took place that were not documented but whose effects are captured in articles produced by members of the working group. These articles are both provided in the Appendices and throughout the thesis as evidence of my hypotheses.

<sup>214</sup> Fortin is a professor in the Dance Department of *Université du Québec à Montréal* as of 1986. She is also a certified teacher of the Feldenkrais Method. Amongst other interests, her research concerns the contribution of somatic education for professional dance training and research methodologies in dance.

<sup>215</sup> He has also conducted research in the fields of functional readaptation, biomechanics and on the role of the nervous system in motricity.

exists when you arrive at certain level of proprioception that can be considered in advance of scientific data' (Kuypers 2006, p.58). He continues, mentioning, for example, that today, 'new techniques of medical imagery have confirmed all these intuitions or forms of empirical knowledge'<sup>216</sup>. It is also interesting to note that Merleau-Ponty, too, collaborated with scientists to guide their research<sup>217</sup>. More recently, the same dynamic of collaborative research can be seen in Alain Berthoz's and Jorland Gerard's research (2004) which crosses fields such as phenomenology, cognitive psychology and neuroscience. While Belgium choreographer Florence notes the interest of these types of collaboration, she nevertheless remarks that '[...] the scientist speaks of proprioceptive<sup>218</sup> sensations from an exteroceptive perspective, which creates a schism, not only with the object of study, but also with the "dancer-researchers" who quite obviously operate from a proprioceptive perspective' (Després 1998, cited in Figols 2000, Chapter II, p.4)<sup>219</sup>.

In this same vein, and following interesting exchanges with Marcia Almeida, professor at the Federal Institute of Brasilia (*I.F.B.*), whose research is inspired by the theories of Claude Levi-Strauss in *The Savage Mind* (1962), it is not so much a question of wanting to initiate a war between the humanities and science, but rather of restoring the rightful authority and validity of corporeal knowledge. In twenty years of artistic

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<sup>216</sup> During the colloquium *Performativité et effets de présence* organized by l'Association canadienne de la recherche théâtrale / Congrès 2010 des sciences humaines, held at Concordia University in Montreal on May 30th, 2010, certain participants, in reaction to my position, disputed these methodological hybridisations, claiming that a methodological mode involving phenomenology cannot be complemented by a scientific mode because they are in a form of opposition. The relatively recent reports of Fortin (2009) and Godard (cited by Kuypers 2006) confirm that on a methodological level, this innovation is now recognised by academics and other researchers.

<sup>217</sup> In *La structure du comportement* (1942) (*The Structure of Behaviour*), Merleau-Ponty cites collaborations in the fields of behaviorism, neurology and other experimental research of the day by Kurt Goldstein and Frederick J.J. Buytendijk.

<sup>218</sup> The term proprioceptive (and not proprioreceptive) denotes an exteroceptive sense that creates important feedback on/for the body itself, such as the role of touch seen in the principle of reversibility of Merleau-Ponty's first chiasm or what Figols calls the between (*du milieu*). On this topic, she notes the particular propensity of touch for connecting interiority and exteriority, passivity and activity, movement and perception (Figols 2000, Chapter II, p.5).

<sup>219</sup> Here, I would like to clarify that I did not adopt scientific methodologies for my research. This said, I share one of Fraleigh's methodological strategies by using 'previous aesthetic and philosophical theory when they apply' (1987 p.xiv). In the context of my research, I nevertheless refer to certain scientific theories when they resonate with elements observed in my experiments.

practice, often spent in collaboration with computer programmers and many types of media art designer-technicians, I can confirm that it was often difficult to make my voice heard and to have corporeal knowledge recognised and prioritised. Gradually, as my experience as a creator developed, from *La démente des anges* onwards, and especially during experiments for this thesis, I learned to take leadership and to reposition myself, in terms of time and energy, but also financially and conceptually, with respect to the importance and validity of the body's knowledge and rhythms. This prioritisation concerned both practice and theory. It was therefore a question of giving full attention and importance to the body and the dancers, precisely because of my awareness, as a dancer, of the existence of kinaesthetic bodily intelligence. As a result, the type of designers, and to a lesser extent, the theorists with whom I collaborated, changed. From that point on, I decided to work with people who had some experience of a physical practice, whatever the practice concerned, and who were sensitive to the question of corporeal intelligence.

#### **4.3.1 The approach with performers**

The methodology I employed with performers consisted of five stages and involved strategies of destabilisation developed with respect to somatic components I explored in order to reconstruct and recreate what Hubert Godard calls 'an ever fluctuating real' (Godard in Kuypers 2006, p.62). In my project, technology was employed as a destabilising factor provoking a new sensory organisation, in which interiority becomes mediated and as such, creates a new experiential reference. This state of reorganisation is in constant motion as explained in the previous chapters. The state of moving instability is also referred to in the theories of Godard (Kuypers 2006) and Merleau-Ponty (1945), as well as in those of Rolnik, Pitozzi and Buci-Glucksmann which were introduced in Chapters 1 and 2. It is also picked up again in observations on

my work made by Louise Boisclair (2007), a cultural critic and member of the Observatory, which are presented in Chapter 5.

### **A surprising problem of training**

Before going further with my analysis, it is important to note that at the outset of my research, I encountered an unexpected problem with both groups of dancers with whom I worked in Paris and Montreal. This concerned the fact that they all had difficulty integrating an understanding of somatic practices in the experimentation involved in my practical research, whether it be in situations where they were in contact with technology or not. For example, in the section entitled 'Legs' (Section 5.3.3.2, second section), they were unable to use knowledge and sensations acquired through the 'Femoral flexion' exercise (Figure 68: Femoral flexion, in Hackney, Peggy (1998)). My goal was to create a very 'airy' quality of movement in the legs when they raised them and moved. This effect was possible if a more 'internal' approach to muscular involvement was adopted, as this exercise permitted. Instead, they used their 'external' muscles, creating heavier movement, that was less fluid, more muscular, giving the impression, watching the movement, that their legs were more 'material' than 'airy', as I had intended. Also, as these movements were very muscularly 'controlled', it was more difficult for the dancers to pay attention to the weight of another leg in contact with one of theirs which might influence its movement in space, for example. This set limits in terms of my objective of generating movement that could be self-organised, because they were less in contact with sensation and were moving in a more rational way doing (thinking about what they were doing and acting voluntarily). So I ended up doing the exercise with them, putting my legs in contact with theirs, in order for them to register this sensation. Even if they felt the difference, the rehearsal time available was not sufficient to develop this new sensory reference and even less, to integrate it in the

gestural exploration I was aiming for. In discussions with the two groups of dancers, they told me that their training in somatic techniques had been apart from technique classes, and therefore, they had not been given the opportunity to learn how to use these techniques for integrating them in movement other than somatic exercises.

Through my research and recent conversations with dance teachers at universities in Europe, I learned that this type of integration is now more common in France and England. However, in Quebec, somatic techniques are still often studied in an isolated manner. To date, these techniques are not always integrated in dance classes in Quebec (Fortin 1996). This information was confirmed<sup>220</sup> with Jacques Brochu, a Feldenkrais practitioner teaching at Concordia University and later, by researcher Florence Figols, as well as by many dancers trained in major dance schools in Quebec.

According to my research, this situation can also possibly be linked to the previously mentioned problem of choreographic neurosis identified by Hubert Godard (Quinz & Menicacci 2005, 2006) as the difficulty dancers have to relinquish repetitive gesture. In the creative research I conducted, somatic principles were used and integrated as much in basic research for creating movement content, as for directing performative behaviour, stage projection, or what is commonly called 'presence' (Pitozzi 2008, 2009b, 2012).

### **The specificity of my practical approach: the importance of daily physical contact with technology during practical experiments**

In Chapter 1, emphasis was placed on the importance of interrelationship in the three sensory chiasms defined by Merleau-Ponty. The development of this multi-sensory integrative interdependence in a dance and technology project has several

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<sup>220</sup> In a conversation on 25 July 2013.

conditions, one of the main ones being maintaining constant physical and immersive contact (almost daily) with technology. It was absolutely necessary in my experiments to allow for the kinaesthetic and bodily integration of technology. By maintaining regular contact, I refer to establishing intimate contact between the dancer's body and technology, a tight physiological link with what technology can generate. Here, technology becomes part of the body, or essential elements the dancer refers to sensorially and perceptually to dance and feel his/her body. One of the specificities of the methodology I experimented with was daily contact with technology and physical technological devices. During the exploratory phases, the dancers worked with audio feedback generated in real-time via wireless devices (used in Studies # 2 and # 3). The devices were placed on their heads and secured by a black elastic turban with a microphone next to their noses.

The devices transformed the dancers' perception of the body, firstly because they "expanded" the size of their heads and were a bit cumbersome, and also increased the weight of the head, thus feeling different. The devices were also to affect their kinaesthetic exploration, given their extreme physical proximity to one another, and also because the devices created additional tension in the dancers' necks, exacerbated by the length of rehearsals that lasted from four to six hours in a row. The dancers had to get used to wearing the devices and secondly, to hear and experience mediated sound feedback until it became a new corporal reference. Right from the start, and daily, the dancers thus experienced movement with the physical devices, with one another, and with technological audio feedback.

By integrating the sound feedback in the exploratory process as a means of discovering different sensory references for generating movement, I created a situation

in which the research process was complexified. It linked the creation of gesture with the relationship to others, to space and also to breathing and the voice, which were completely joined with the physical gesture being explored. Because sound was developed in an interdependent relationship with the creation of movement, when the dancer made a gesture, she necessarily produced a type of sound. To be more explicit, as the sound was completely joined with movement, when the dancer moved, a sound associated with her gesture was produced. This also meant that another dancer who was not next to her, ie. in direct contact, could nevertheless perceive her because of the sound her movement produced. The audio feedback in real-time was to allow the dancers to sense their entity as a group, creating another type of communication between them. This process is explained in greater detail in Chapter 5, particularly with respect to a strategy of bodily spasms and collective rhythms that I worked with.

With the imperative of maintaining constant contact with technology, my approach is fundamentally different to the approach of other artists whose work was examined as part of this research. For example, Susan Kozel, in *Closer* (2007), speaks of a need for close contact with technology, but she does not consider it an essential requirement for the research she has conducted. As she remarks: '[...] art pieces created in controlled environments afford the option of revisiting and, *ideally*, spending time in the environment' (Kozel 2007, p.54, emphasis added). I also had the opportunity to attend rehearsals, performances and lectures by artists working with technology, such as Kozel or Martin Kusch of the company *Kondition pluriel*<sup>221</sup>. At conferences such as the *New Realities: being Syncretic* held in Vienna in 2008 and the METABODY conference held in Dresden in 2013, artists reflected on the rarity of being able to have regular access to technology in financial and logistical terms. However, Kusch

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<sup>221</sup> Viewed 13 August 2014, online: <http://www.konditionpluriel.org/>

explained that regular access to technology has never been a priority because he is of the opinion that it adds nothing for performers in their proprioceptive learning process. In their creative approach, *Kondition pluriel* uses technology as an element that is external to the performer. The performer triggers media elements or is situated within a technological environment that is already established. His/her presence only serves to trigger media elements.

The issue of accessing technology on a regular basis is nevertheless central to my approach. Chapter 5 presents the phases of experimentation involved in my process, along with some examples of these explorations.

### **The five stages of my methodology with the performers**

To return to the presentation of my methodology with performers, here are the five stages involved:

1. Becoming aware of an environment that is already known: exploration of the body moving alone in space and construction of phenomenological, kinaesthetic, perceptual and experiential bearings within this context.
2. Adding an element of destabilisation, for example, an abstraction of space or an addition of technological elements as extra layers of information adding another layer of complexity to be integrated.
3. Installing awareness of the loss of bearings that occur as a result of destabilisation and the difference this complexity entails.
4. Giving the dancers time to integrate this complexity until they feel it physically on perceptual and kinaesthetic levels: for example, when sound or immersive video elements are registered physically on a vibratory level, thus allowing time for sensorial and perceptual reorganisation. This process is accomplished through rehearsals and a long period of contact with the elements of change



concerned (technological, scenographic, *et caetera*) as well as through increasing phenomenological and experiential awareness.

5. The acquisition and integration of new capacities. Observation of the changes occurring in performative behavior and instilling awareness of new performative elements and their integration one after another within the creative process<sup>222</sup>.

According to my observations, the general practice of choreographers working with technology is to add technological elements to the choreographic work previously developed and then ask dancers to learn how to use and operate these device(s) for generating images, sounds, *et caetera*, as dictated by a project's objectives. To date, I am not aware of creative processes that allow time for becoming conscious of, and implementing, sensorial and perceptual reorganisation that working with technologies implies. With the former approach, no ontological shift related to the body takes place<sup>223</sup>. Rather, the performative body is considered as an object or support for the production of technology or technological effects. The dancer becomes divided, losing part of his or her performative qualities as a result of having to listen to, or to look at, what he/she is producing rather than using technology as a means of self-transformation and alternative way of performing.

Needless to say, the method I employ assumes that performers have had prior training in somatic practices and in the main dance techniques a particular project requires, for example, contact improvisation, as well as experience in a practice of introspection such as meditation. They also need to be comfortable with quasi nudity – the aesthetic chosen to highlight the poetry of physical changes that are experienced, as well as emerging gestures – and proximity to other bodies, as well as being willing to

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<sup>222</sup> Chapter 5 outlines the main strategies of destabilisation involved, a description of my experiments and some applications of these principles.

<sup>223</sup> See Sections 1.3, 2.8.5, as well as Lévy's theories in Section 2.6.

engage in a research process that entails risk, is transdisciplinary and implies technologies.

The point I am making, and which lies at the heart of my argument, is that the type of kinaesthetic change I am describing, its appropriation and integration, is essential for the performing arts that integrate new technologies. Implying a learning process, it engenders sensory and perceptual reorganisation and participates in the elaboration of the particular form of cognition I uphold. The destabilisation I create with the use of technology induces a new form of physicality for the performers and is experienced as new information and therefore, a complexification of their immediate environment. It forms an additional information layer of sensory and perceptual information which the performers must integrate phenomenologically. All these factors were also to lead to the development of new gestural codes and performative modes.

#### **4.3.2 The Observatory: general approach and work with the researchers**

To stimulate the implementation of integrative thinking I defend and developed with my methodology, I proposed a strategy of free association that has points in common with those of Roy Ascott ([1966-67] 2003). While the particular context referred to by Ascott is that of the cybernetic arts as principally applied to the fields of painting and sculpture and to their behavioural extensions, in my case, the context was the field of contemporary performative practices integrating technology.

I have been experimenting with this strategy intuitively since 1994, but deepened and adapted it for my doctoral research. Its main elements involve practical work that is enriched by theoretical reflection and *vice versa*. Points in common with Ascott's [1966-67] (2003) methodological strategies firstly include the creation of an

environment that is polemical; engendering questions rather than proposing absolute answers. Concretely, this aspect of my methodology came about with the creation of a dynamic group of researcher-observers who critiqued, learned and tested polemical elements. In uniting a dynamic group of creative minds coming from different fields (science, performance/dance, architecture, design, media arts, music, the visual arts, *et caetera*), the idea was, in a second stage, to be able to reflect upon, learn from and test elements of a debate on creative processes within an interdisciplinary context. This strategy also involved the creation of a syncretic environment, with places and people coming from different cultures, visions and references, and my desire to de-compartmentalise disciplinary hierarchy. This dynamic was also nourished by contact and exchange with major figures in the field and implied a consideration of different types of literature capable of generating new ideas (Bataille or Rolnik, for example) as well as analyses stemming from other points of view. For the methodology I experimented with, it was lastly necessary to have access to technical resources over a prolonged period of time with the necessary funding to ensure these operations.

According to Ascott ([1966-67] 2003, p.122), it is only recently that the integrative approach has come to involve a more organic interaction of diverse elements that concern the creative act and technological interfaces. This dynamic is capable of producing new ideas which will hopefully influence our field. It can further advance the development of apprenticeship and new vocational capacities, which can in turn be applied to the field of creative situations.

## **Presentation of the main strategies for working with the members of the Observatory**

Let us now look at the different work strategies I developed with members of the research group I named the 'Observatory':

- Presentation of theoretical and practical research to each member of the Observatory;
- Delivery of a questionnaire detailing objectives and questions (indicating the concepts and links to be discussed) to each member at least two weeks before meeting;
- Periodic presentations of the practical research (work-in-progress) for observation by different types of audiences: the general public, researchers (whether or not members of the Observatory) and critics from different countries, in order to generate different points of view and means of analysis, as well as different modes of reception with respect to the empathic dynamic I was testing;
- Open discussions after presentations that were structured, and spontaneous exchanges of literature, articles, to help advance reflection for all concerned, exchange of written texts - finished or in progress - on the process;
- Periodical sharing of theoretical work in development in order to inform the observers of new trains of thought (and *vice versa*); exposing ideas for critique by the research group, with discussions and to summarise, critique and elaborate conclusions of the encounters in the form of critical reviews, changes to introduce, research avenues to explore;
- Discussions for publication strategies for my texts and those of other members of the Observatory; strategies for co-writing articles on the avenues of research discussed; conference presentations on new ideas that emerged.
- Exchanges of these texts amongst members of the Observatory and myself, reciprocal invitations to conferences, organisation of friendly meals with two or more members of the Observatory and open discussions.

This process of observation was documented in writing through interviews, *et caetera* during Studies #2 and 3. To conclude, each stage of the research was summarised in papers given at conferences or through one or more articles by one or several members of the Observatory. It should also be noted that the production of theory might either anticipate or follow the phases of practical production.

With this methodology, I applied the complementarity of intelligences advanced by Howard Gardner<sup>224</sup>. To understand and analyse this process of critical reflection and practical research based on critical feedback and sharing of an empathetic nature, I set up the Observatory composed of researchers of different nationalities in order to generate a critical review of my practical research for this thesis. This methodology thus purports to be a methodology of transformation based on a process of collaborative research, itself based on empathy. Here, and the practice can confirm it, theory informs practice and *vice versa*, but, more importantly, they influence each other empathically. The tasks of the Observatory were to generate critical feedback based on lived experience and sensory-perceptual reorganisation. The researcher-theoreticians acted in a complementary empathetic fashion towards the practice and *vice versa*. It also led us to question and think about other models concerning the phenomenology of the performer's mode of emission and the phenomenology of reception of the spectator (as well as the links they make with one another). The establishment of the Observatory was thus an essential step in my methodology.

What was most interesting in these steps of my methodology was not the results of the questionnaires (the questions or objectives that I had set out), but rather in what was created unconsciously: what arose spontaneously from this methodology and

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<sup>224</sup> Introduced previously in Section 1.8.

results that were unforeseen. What the members of the Observatory were able to perceive and what the artists created unconsciously. Practice and theory anticipated and influenced each other in an order that was impossible to predict. They interacted in a communion of diverse currents that 'contaminated' and influenced one another creatively. Here, the group took on a status of researchers in much the same way as the artists concerned. In this relation of mutual research, involving different and complementary tools, their participation became particularly relevant, drawing its inspiration from the very essence of the notion of the performative attitude and constituting a certain degree of mutual transformation.

### **A modified phenomenological methodology: meeting the needs of Practice as Research involving technology**

This section examines some elements of my methodology that are in common with Susan Kozel's methodology and also points to areas where they differ. It is not my intention to make a point-by-point comparison of our two methodologies but rather, and in a succinct manner, to discern certain precedents and highlight particular aspects that were developed to meet the demands of my own research.

Kozel provides an idea of certain stages of her methodology, which she identifies as 'a fluid set of guidelines and starting points' (2007, p.48) that are based on acts of observation and selection. She thus creates a context determined by a series of questions and answers having to do with the ability to perceive, a process that is also present in my methodological approach. For example, she begins with some 'wide-angle questions' (2007, p.49) such as: 'How do we experience the world?' (2007, p.49). For me, this type of question is part of my overall approach to research and does not constitute a specific step in a new exploration, nor necessarily a starting point for research *per se*. She proceeds with answers such as: 'We experience the world through

our bodies' (2007, p.49). In the framework of my research, I would be more specific and say that we experience the world through sensations and with a dynamic that is multisensory and multimodal. Kozel continues, making what she calls 'fine-grained questions' such as 'What do you hear right now?' (2007, p.49). This is the type of question I posed to the dancers in the first steps of my methodology, but was rather used to highlight changes of perception occurring when an element of sensory or perceptual destabilisation was added.

Varela, Thompson and Rosch (1993, cited in Kozel 2007, p.50) raise an interesting point about the way people experience sensory-perceptual changes. The authors make an analogy with meditation: 'One has to learn how to use one's reflective capacities in a different way to meditate. It is not a question of severing all cognition to enter into a stupefied state, it is about creating a new way for cognition to coexist with inner and outer experience' (1993, cited in Kozel 2007, pp.50-51). Kozel continues her analysis stating that 'a method for investigation has been characterized as having two dimensions; a procedure for accessing the phenomenal domain, and a means for expression and validation within a community (Varela and Shear 2002, p.6 cited in Kozel 2007, p.52). Kozel's and my methodology both share this goal. If our methodologies both concern an understanding of the performer's experience relative to contact with technology, our creative strategies and choice of the technologies involved are different.

#### 4.4 Conclusion

One of the main goals of the methodology outlined in this chapter was to approach creative material as living matter. I desired to work with material that could be transformed, evolve and hopefully provoke emergent phenomena, and this, in order to better understand the world in the sense suggested by Merleau-Ponty. I sought to set in motion a dynamics of the living, wherein the notion of finality has little sense, but rather, where meaning is related to transformation, evolution and the experiential. Ascott and Burnham bring this argument to light in the context of cybernetic art. New authors, such as Pitozzi (2008, 2009a, 2009b, 2010a) and Quinz<sup>225</sup>, speak of this topic with respect to the physical and performative body<sup>226</sup>. I believe this methodology implies a consideration of "being" rather than "doing". Its ambition is to understand ontological elements, modify bodily experience and grasp its essence in an alchemy of the 'real'.

In this section, four issues were examined related to the development of methodologies within artistic practice in academia. I share the views of the authors cited that call for innovation in methodology. Principles and steps of the particular methodology I developed reflect my position on the need for developing another mode of integrative thinking in order to avoid the reductionist and materialistic disciplinary traps inherited from Descartes and others. To stimulate integrative thinking, I propose a reflective methodology that is evolutive and based on free association. With this logic in mind, and while considering a context of new contemporary performative stages, I advocate for a methodology that reintegrates the moving body in an understanding of

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<sup>225</sup> In the course *EPA903E-10 Thematic Seminar III. Arts, languages, materials and technologies. The Sound Body, The Body as a Presence in Installations and Onstage*, held at the University of Quebec in Montreal in January 2010.

<sup>226</sup> Moreover, researchers such as Pitozzi who studied my methods and projects, used them to develop some of their own ideas.



the world and that includes multiple intelligences in order to generate other cognitive paradigms. This methodology supports what I advance as a reintegration of the moving body in understanding the world through learning processes which can have impact for the evolving and emerging aspects of the human being.

The methodology I propose is collective in nature and based on an empathetic dynamic. It is also based on a transversal and integrative dynamic that creates a context in which sensorial modalities are stimulated and heightened. Supporting two other hypotheses I defend in this thesis, the reintegration it proposes can lead to the emergence of other expressive, communicative and aesthetic paradigms. My research also shows that this intensification can enrich and transform perception.

To conclude, and as my latest research has shown, the exploration of new relations between somatics and technology can open up a new field of knowledge necessary for understanding the changes I outline in this thesis such as the phenomenon of empathy in which the physical body is inextricably involved. Following discussions that took place at the *Somatics and Technology Conference 2012* at the University of Chichester, where I was invited as one of two keynote speakers along with American Postmodern dance pioneer Nancy Stark Smith, it became clear to me how much the work of American postmodern artists like Stark Smith had set the foundations for this research. The empathic kinaesthetic appropriation their work entails lies at the heart of my work dynamic with both performers and researchers.

Having described the methods developed for my practical research, the next chapter describes the experiments conducted and strategies of destabilisation employed in greater detail. It notably attempts to elucidate possible ways to deal with the complexity of relationships between the performative body and mediation. So doing, it

highlights self-organisation as a main strategy and describes the learning process involved in the generation of sound in real-time when it acts as a form of physical feedback for the performative body.

## 5. CHAPTER V – STUDIES #2 AND #3: CREATIVE RESEARCH IN DANCE AND NEW TECHNOLOGY

### 5.1 Introduction

This chapter outlines my key strategies of sensory-perceptual destabilisation which are, in fact, the strategies which underpinned the practical research for this thesis. Here, practice is considered an integral part of the research process and its findings. I thus present and explain my methodology as merging practice and theory, and detail how practice is linked to theory and *vice versa*. I also describe what was acquired and understood in this process of exploration; as much for myself as for the dancers, conceptors and theorists who were members of the Observatory. An analysis is also made of somatic principles applied in the practical research process. With this approach, I created an interaction between movement, the environment and awareness. I worked with the idea of awakening the individual dancer's sense of autonomy by applying the three key elements or principles of somatic education that are integrated into my research process: considering factors of a novel learning context, sensory attunement and augmented rest<sup>227 228</sup> (Bernardi 2007, cited in Batson 2010).

I also examined how the notions of *Mâ* and a dissolution of psycho-corporal surfaces can impact performers and spectators alike. I notably implemented these

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<sup>227</sup> Viewed 15 October 2014, online:

[http://c.y.mcdn.com/sites/www.iadms.org/resource/resmgr/resource\\_papers/somatic\\_studies.pdf](http://c.y.mcdn.com/sites/www.iadms.org/resource/resmgr/resource_papers/somatic_studies.pdf)

<sup>228</sup> Augmented Rest is a key concept of somatic studies. According to Batson (2009):

Practice (repetition for reinforcement) is a powerful training tool in dance, but is rarely counterbalanced with rest. Somatic studies commonly embed resting intervals between phases to physical activity. This high rest-to-activity ratio is designed to allow the nervous system time for processing and integration and physiological systems time to recover.

[...] Somatic resting phases not only are employed as a strategy for physical recovery, however, but also for motor programming. Rest periods help consolidate memory (you'll remember what you learned) and improve motor recall (you'll more readily call it forth when you need it), as well as actual performance (you'll do better next time). (Schmidt RA 2005, cited in Batson 2009, p.2)

concepts in the creation of a collective body based on the principle of intercorporeality, a principle itself based on Buci-Glucksmann's interpretation of flux as presented in Chapter 2, thus developing a transitional dynamic which produces an experience of the real in a perpetual state of motion. This evidence will be shown to support the conclusions of this thesis and its claim of the possibility of an ontological shift of the body in its relation to technology. Accounts by the dancers of their understanding and experience of the body as a place of coexistence comprising the physical body, the flesh, and the mediated body will also enhance my analysis. In parallel, the collective and collaborative research process involved is described, as well as the results that emerged from it.

From the outset, I would like to stipulate that the purpose of these experiments was not so much to provide answers or evidence, but rather to consider and attempt to grasp other forms of understanding. They were experiments that sought to understand the world with a different kind of knowledge and intelligence: that of the bodily intelligence referred to in Chapter 1. My aim was not to understand and explain all aspects of these explorations. I conducted this research to be able to deliver an experience of some of the phenomena that I myself have lived as a performer and/or the experience of the performers, designers and theorists who were part of these experiments. These answers were of course contingent on the possibilities and limits of each person involved and accordingly, on their ability to grasp and express the experience they had lived with respect to their roles, way of communicating and available time.

This research involves an experience that is highly subjective. Phenomenological methodology, which is the basis of the methodology I tested, takes sensory and perceptual experience seriously. The most important aspect of the method

bequeathed by Merleau-Ponty is the faithful description of a perceptual experience from a first-person point of view, and staying with that experience until as many of its facets possible are revealed. This said, arguments concerning perceptual experience need to be backed up. Objective third-person points of view are thus incorporated in the chapter's analysis when appropriate. In my methodology, these third-person points of view were taken into consideration in tandem with first-person points of view with the goal of informing practice and *vice versa*.

## **5.2 A schematic description of the practical research and phases of experimentation Studies #2 and #3**

This chapter examines two experimental phases of my practical research which I refer to as Studies #2 and #3. Greater emphasis will be placed on the last study.

*Meat Paradoxe*, the title given to the last phase of experimentation #3, is a hybrid work which explores the relationship between the moving body and technology and, more specifically, between technology and principles of somatics which encompass the creation of a new learning environment, a self-organisation of the body based on sensory awareness, or 'sensory harmonization', and augmented rest.

This creation presents itself as a moving three-dimensional sculpture featuring five partially nude dancers who are in almost constant contact. Forming a collective body, it takes as a reference tactile, kinaesthetic and proprioceptive sensations as well as a creative dynamic rooted in the experiential, the evolutive and what is transversal. On the question of sensation in dance, Figols and Després advance the idea that:

Working on sensation in dance brings in its wake a different perception of the body in motion, another corporeality and therefore a different aesthetic in which the body becomes the very model of a poetic (Figols 2000, Chapter II, p.3).

[...] modernity in dance is characterised by an exploration of the body, its matter, its vital forces, its inner desires, its sensations (Després 1998, p.5).



Figure 48: Study #3, *Morph*, 2008

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Figure 49: Study #3, *Morph*, 2008

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Thus, in my investigation of sensory-perceptual destabilisation, and to paraphrase Berthoz, '[e]ach sense de-composes sensitive reality into components that are then recomposed, related' (Berthoz 1997, p.288).

The collective body in question moves and takes form through strategies that I call 'transitory' which bear resemblance to Trisha Brown's fluid body, a body that explores multidirectional movement based on a gesture play of what is unfinished (Fontaine 2004). At the same time, it radicalises Steve Paxton's notion of the tactile body, a dance based on the exchange of weight between partners, which places the sense of touch at its core (Suquet 2006)<sup>229</sup>. The collective body, which was the focus of my explorations, was created as an evolving perceptual form with continual sensory-perceptual reconfigurations and uses tactility as one of its main research strategies. To paraphrase Aurore Després:

Placing tactility at the center of a theory or practice means disrupting the logic of sensation based on sensorimotor schemas and the separation of interior and exterior, passivity and activity (Després 1998, p.458).

Sound is produced in real-time and is closely related to the different dynamics of movement. It has the particularity of being created through a collective dynamic, thereby constituting a collective sound body and becoming a 'sixth dancer' with its particular dynamics, temporality and relationship to space.

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<sup>229</sup> This process is described in greater detail in Section 5.3.1.

To make the link between the physical body and the collective sound body, I used technological devices that were intended to remain invisible. They consisted firstly of a wireless microphone system worn by the dancers, hidden under black turbans and secondly, of an original software program that spatialises sound. The collective physical body was thus attributed with a sound dimension. Thanks to the technological devices designed for performance, the dancers were able to generate sound in real-time. Their gestural and sound expressions were captured by wireless microphones and transformed as audio signals and instantly transmitted (processed and spatialised) within the performance environment. Further, the sounds and gestures produced by each performer returned as echoes of a mediated manifestation of the body and also extended towards the other performers, thus amplifying and defining the five bodies as a single collective sound body.

These sensory crossovers, which make a direct reference to Merleau-Ponty's intersensory chiasms, and according to the research of Hubert Godard (Kuypers 2006; Godard 1993, cited in Suquet 2006) and Florence Figols, come 'well before the findings of science, sensory crossovers have always been worked in an intuitive way by artists and educators. Here, the real is primarily lived and felt by the body' (Figols 2000, Chapter II, p.4). In my practical research, an ontological opening of the physical body is effectuated and operates through the concepts of corporeality and intercorporeality, finding resonance with Merleau-Ponty's notion of flesh which is lived through 'the body itself' and experienced through the kinaesthetic sense amongst other things. The sensations that inform us about the body and its movements are 'the proprioceptive sensations which are often associated with kinaesthetic sense (Figols 2000, Chapter II, p.4). As Després also notes, 'The kinaesthetic sense refers to a sensation of body, its internal and external movements, the sensation of what is moving, what is living' (Després 1998, p.459).

In the last two studies of the project's development, the sound sources were mainly treated collectively<sup>230</sup>.

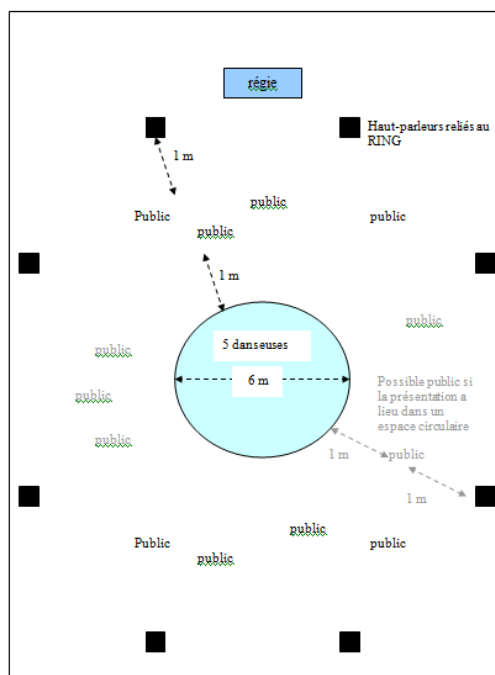


Figure 50: Studies #2 - #3, *Scenography*, 2008, Isabelle Choinière

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In terms of space, the scenography was designed to create three circular spaces becoming successively larger. The first circle is the performance space in which the dancers move. It is six feet in diameter and is centrally positioned. The audience is positioned around this circle in close proximity to the space of the dancers. The third and outer circle is formed of eight speakers that form part of the spatialised sound system and enclose the entire performance space. Located between the speakers and the dancers' arena/space, the audience fully participates in the sensorial and perceptual destabilisation I am experimenting with. The proximity of the audience within these two spaces is required. The overall effect is the result of a conscious strategy of sensorial and perceptual destabilisation. With this hyperproximity, I aimed to provoke a hypnotic effect from being confronted with this complex form of flesh that has become audible: a chanting, speaking, moaning mass of flesh. The proximity of the dancers' naked bodies

<sup>230</sup> In a next phase, we plan to isolate the sources and spatialise in different spatio-temporal organisations to complexify the perceptual phenomena and physical performative/mediated organisation.



as a mass of moving flesh provokes a first loss of bearings, a 'de-heirarchisation', because the audience finds itself *in* the flesh. 'De-heirarchisation' is one of the strategies I employed whereby body parts do not play their normal or conventional role. For example, legs play the role of arms or are doubled as in the work of German painter and sculptor Hans Bellmer (1902-1975)



Figure 51: Hans Bellmer, *La poupée* (1937) in Dourthe, Pierre (1999) *Bellmer*

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Figure 52: Hans Bellmer, *Céphalopode* (1940) in Dourthe, Pierre (1999) *Bellmer*

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or in the work *Pezzo o (due)*<sup>231</sup>, by Italian choreographer Maria Donata d'Urso, which were both sources of inspiration for Study #3.

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<sup>231</sup> Maria Donata d'Urso, video *Pezzo O (due)*, 1999, viewed 18 December 2013, online: <http://vimeo.com/20828755>

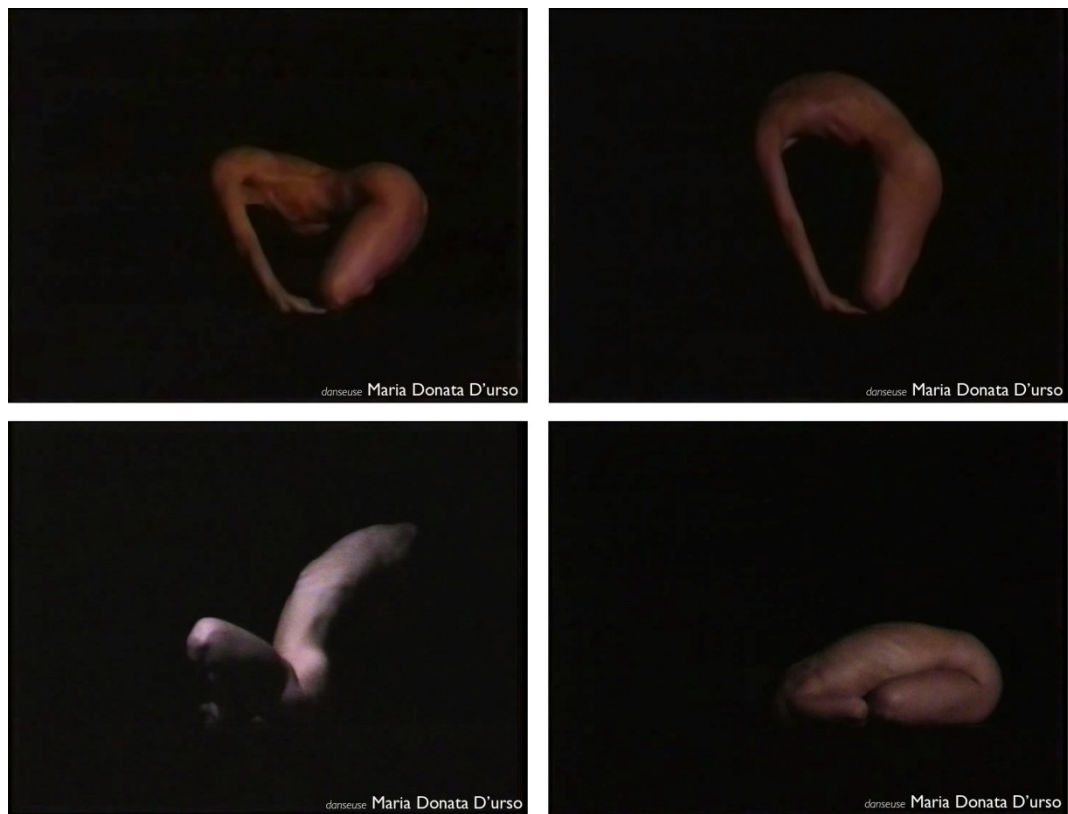


Figure 53: Maria Donata d'Urso, *Pezzo o (due)*, 1999

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At the same time, spectators *hear* this mass of flesh. A second loss of bearings occurs as a result of spectators' immersion in a living sound form that is moving and produced in real-time by the five dancers, and by proximity that strips spectators of their normal analytical references and distance. They find themselves *in* the form, they are confronted with something extremely intimate, and are simultaneously immersed in the sound emitted by this form that moves around them and penetrates their space. There are thus two forms (the flesh of five intertwined bodies and sound created in real-time) that spectators are not normally accustomed to, that blur codes and bearings and move around them.

The work was intended as a staging of the presence and flesh of this human mass in its material and interconnected dimension. It is an incarnated version of Merleau-Ponty's vision of the world experienced as/in the flesh (*la chair du monde*)

which integrates "the body itself" in a principle of coexistence. This Merleau-Pontian dynamic of intercorporeality is central to this principle and to my practical research. The principle of coexistence gives birth to 'the interlacing of being and the world, [...] interpenetration [...] of inside and outside (Després 1998, p.364).

A poetic trip inside the hyper-intimate and sculptural eroticism, this creation is a hymn to life, to the feminine and to beauty. It is a reflection of Merleau-Ponty's research on sensoriality and perception and the ability to communicate with the Other in an intersubjective and empathic manner: [...] the sensation of the Other and the relationship to the Other involves a contagion. Contagion is not imitation but [rather] an assembling of elements which, while remaining different, impregnate each other with their respective consistencies' (Després 1998, p.394). My practical research also involves a reflection on the orgiastic in a mythological sense as being an experience of the body through forms which result from a loss of bearings.

### **5.3 Analysis of the dance performance: introduction**

This section looks at the most important stages of my experimentation and its collective and collaborative form of research that aimed to reveal new knowledge and insight from its particular dynamic. Two perspectives are adopted: that of myself as a practitioner sharing a first-person point of view, and that of an academic employing a third-person point of view. Members of the Observatory used the same strategy: having been immersed in the experience, they were also subject to the sensory-perceptual destabilisation they were observing and experiencing within the area surrounded by the speakers and at a distance of a half meter from the dancers' performance space, so they both speak from a first-person point of view and alternate their analysis from a third-

person point of view. This process applied to Dominique Besson, the composer and sound designer of Study # 3. As for the dancers, they speak mainly from a first-person point of view which describes an experiential perspective. My analysis is primarily from an aesthetic and philosophical perspective and its context is that of the performative body and new performative scenes investing in technology.

I begin my analysis from a first-person point of view, describing part of the training process with the dancers, and giving an example of how the conversations and interventions of the Observatory came to be incorporated and form part of the process of understanding the practical research undertaken. Although the steps and content of my research were different, I partially adopt a descriptive structure elaborated by Susan Kozel (2007, p.48-55) to provide a description of how to create the equivalent of 'a methodology of living experience' (Kozel 2007, p.52).

An aesthetic and historical analysis of models of the body in the visual arts and dance that served as an inspiration for the work are then presented: Lygia Clark's collective body, Trisha Brown's fluid body, *Butoh*'s introspective body and Steve Paxton's tactile body. It will create a theoretical base which I refer to during the commentaries and analyses in this section. It also provides the necessary grounding for presenting the models of a collective physical and mediated body I propose which, in their space of coexistence, create the possibility of the collective carnal body that was tested in the framework of this thesis.

A description of the experiments from first-person perspectives is presented while crossing and integrating theoretical analyses from third-person points of view. Choreographic notations and observations from my notebooks are integrated when appropriate. The theoretical analysis picks up on Merleau-Ponty's key concepts and

ideas: the flesh and his principle of coexistence; the relationship of interior and exterior; the principle of continual transformation; the relationship to sensation and perception and their dynamic of perpetual motion; the intersensory chiasms and their importance for elaborating other forms of knowledge based on new perceptions; and finally, corporal intersubjectivity (or empathy) which is, in fact, intercorporeality.

Practical information concerning the dates, locations and context for these experiments is provided later in this chapter in Section 5.3.2 as well as in Appendix 8.3. This information and its sources take the form of transcriptions and interviews, video documentation and excerpts from published articles. The videos are presented on the DVD included in the thesis and complete articles by members of the Observatory are available in Appendix 8.2.

### **Towards a methodology based on a phenomenology of lived experience**

Herewith follows a description of the stages of my practical research and an explanation of how I worked with members of the Observatory. Also, for the sake of clarity, descriptions in the first person in the section 'A description of one of the first stages of exploration in this process' are presented in italics.

But firstly, let me say that the tools that I employed with the dancers were mainly touch and verbal instructions. This was in order not to impose anything, but rather to see where their work on sensory-perceptual self-organisation would lead them and also lead to observe, and let emerge what tactility contains. I demonstrated very little, again, in order not to influence what was being revealed to the dancers. I directed what I perceived and what could be shaped - the structural organisation and the various relationships to be established. I noted the stages the dancers had to go through when we arrived at a result that interested me, such as the example to follow that comes from

one of my choreographic notebooks. However, I did intervene at times to demonstrate complex shifts of weight within the structure of five dancers as a group (where managing gravity is more complex than what what is learned in Contact Improvisation classes where people most often work in pairs), or to introduce an aspect of relationship between gesture and sound (something that was not familiar for, or a part of the training of the dancers with whom I worked).

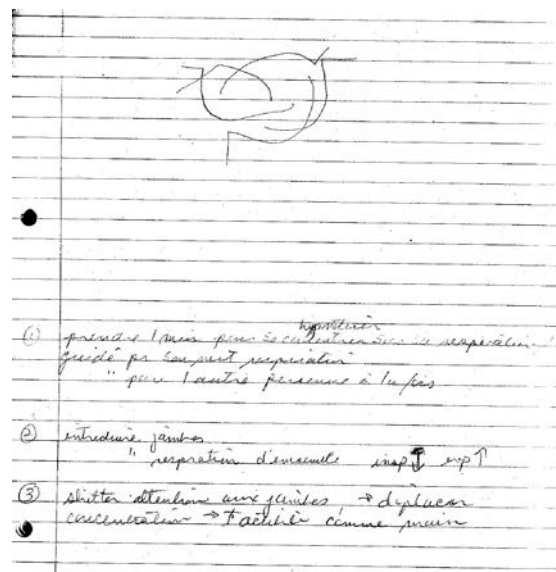


Figure 54: Study #3, *Morph* (2008) choreographic notes and drawings

Figure 54 have approval to be used

Here is a description of one of the first stages of exploration in this process:

- 1- *Find a place on the floor, the most comfortable one for you, where all your limbs are in contact with the other dancers. It is important that your bellies (center of gravity) are in full contact and that there is no space between your belly and the bodies of others.*



Figure 55: Study #3, *Morph* (2008) test for a basic formation

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**2- Close your eyes and concentrate fully on your breathing.**

Després offers an interesting analysis of what working with closed eyes brings to the dancer phenomenologically. Closing the eyes, tuning out a portion of the world around us for a moment, allows for an amplification of tactile and kinaesthetic sensations, whereas the sense of sight 'appears as the paradigm of an outward looking sensoriality' (Després 1998, p.44).

Després pursues this analysis noting that sight tends to pull us outwards, out of body, and away from a proprioceptive sensitivity:

The open eye is so tied to a fixed geometrisation of the material world, to a certain rationalisation and to a certain perception of surfaces that the closed eye, its "contrary", allows for the emergence of depth, of imagination and of movement, as much for the feeling body as for the sensitive body. The quality of becoming blind is precisely to exalt the modality of tactile-kinaesthetic sensitivity (Després 1998 p.466).

Figols makes further comments on the ways a dialogue is established between interiority and exteriority when working with closed eyes:

Working on sensation permits a continuous exchange between one medium and another, circulation between the interior and the exterior which is necessary for giving gesture (*la matière corporelle*) all its sensitive possibilities [...] This dialogue works with sensory amplification or reduction. When you close your eyes, the other senses take over. Kinaesthetic, auditory and tactile sensations are affirmed and refined (2000, Chapter II, p.5).

**3-** *Open your mouths slightly. Release the lower jaw and breathe a little stronger, enough so the other dancers can hear you and you can also hear the breathing of the other dancers.*

**4-** *Focus on your breath resonating inside your body. Feel the sound completely filling the inside of your body. This creates a kind of meditation (a 'void'). That's what you're looking for.*

**5-** *Once this feeling is really clear, concentrate on feeling your breathing collectively. Adjust your rhythm of breathing to the others to form a single breathing. Feel that you are only one person. Wait until that feeling is really clear.*

**6-** *Now become aware of contact with one person only. Focus on contact with one person starting with one part of your body only. Take your time doing it and keep your own connection with yourself, your center, the relationship with your inner body.*

**7-** *Now make different rhythms with your breathing. Allow yourselves to explore these differences. You can return to breathing synchronously with another person. Be aware of the breathing rhythm you are all creating together. Pay attention to this as if you were playing an instrument in a band and you were creating a sound environment together, collectively.*

**8-** *Now send, extend, your breathing down your back, or to your shoulder blades<sup>232</sup>. Focus on the micro-movement this creates. I'm going to put my hand on different parts of your body to help you send the breath to a place that will be in contact with another person. You are going to start communicating with the other person through this micro-movement.*

This exercise marked the point of departure for a technique I developed for experiencing the dissolution of psycho-corporal boundaries which was to be further

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<sup>232</sup> I give a more detailed description of this exercise in the videos documenting this exercise based on somatic training (see DVD).



applied in the relationship with spectators through working with a sensation of the dilated body and work on stage projection or 'presence', to which it is connected.

**9-** *Amplify this breathing and feel what part of your body is going to move: your rib cage, the tip of your shoulder blade, your shoulder, and so forth. Now, I'm going to go around and put my hand or finger on a part of your body to help you identify or discover a part of the body that can connect with movement related to your breathing.*

**10-** *Take the time to explore this movement, to get used to it. Remember this new sensation and the path you took to create it.*

**11-** *Explore this movement in all possible directions: left, right, diagonally, up, down, et caetera.*

**12-** *Keeping that connection with the inside of your body, begin responding to the breathing of the body of only one person. Be attentive to the movement it creates. Explore how this other micro-movement makes you move, how it affects the movement you are making. Don't do anything intentionally, don't make big movements. Stay focused on the micro-movement and keep it connected to the breath you are sending to a part of your body.*

**13-** *If you feel lost or you lose your focus (if thoughts begin to creep in and you lose the feeling of an empty mind), start the exercise again and concentrate only on the feeling of your breath resonating inside your body. This is the point where you need to go back to every time you lose your concentration or you're lost.*

**14-** *Be aware of the sensation of being in this collective breathing, this collective communication. Be aware of how you feel physically in this collective breathing. How does this sound 'feedback' naturally engulfs you, affects you, as if it was 'massaging' you.*

**15-** *When the sensation of feeling connected to movement with a person is clear, in another part of the body explore another point of contact with another person, or with the same person in a different part of your body. Keep communicating with your breathing while you send it to two areas of your body at the same time.*

**16-** *Then, when the relationship is clear, see where this contact (where you send your breath) will take you and what kind of movement it creates. If you get lost, go back to a single contact. When the sensation is clear, react to two breaths from two different parts of your body (given by one person in two places or by two persons). I'm going to put my hands on your body to help you explore these possibilities.*

**17-** *We're going to stop the exercise slowly. Come out of this state and leave it slowly.*

This exercise was then completed by a collective sharing of what the dancers had experienced and I would also comment on what I had seen and would help them, when necessary or if they asked me, to verbalise their experience:

**18-** *Describe what you experienced. Now you will share this experience and I will take notes or we'll film your account. (I would do this step after each exchange). How did you feel? What is new sensation did you experience? Did you have a collective experience? If so, on what level? What helped you? How did you feel about your relationship to sound? To touch? Touching other dancers? Mine? Did sound help you feel the other dancers? Did you feel connected with one or several other dancers? et caetera.*

**19-** *Take a break. Once the conversation is over, we'll pause for a variable length of time (between 20 and 60 minutes).*

I took down notes such as these in order to record the steps leading to results that I considered interesting and that engaged the dancers in the state of introspective concentration and interconnection I was looking for.

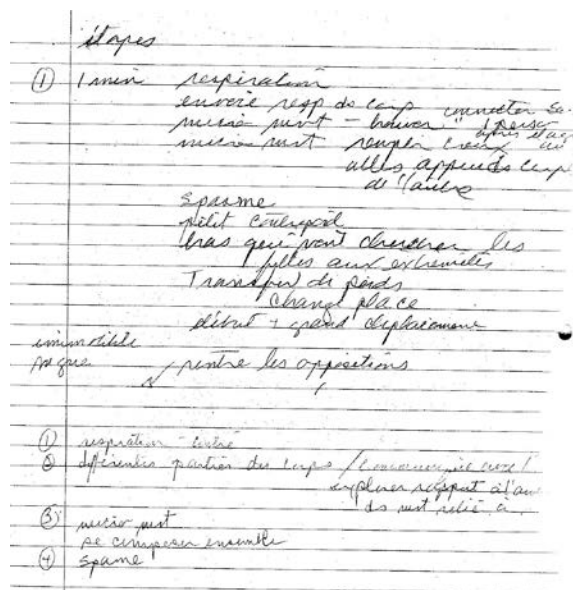


Figure 56: Study #3, *Morph* (2008) choreographic notes

Figure 56 have approval to be used

### Next step: integrating technology

**20-** We returned to the same exercise in all its stages, but this time, with the microphones placed on the heads of the dancers and amplified sound. We only used reverb as a sound effect to begin with so that the dancers could feel the direct relationship between their breathing, the movement they were creating and, later on, awareness of their relationships with other dancers that the amplified breathing allowed them to build. The manipulation of sound in real-time was operated by technicians who had a certain sensitivity to the performative body (or whom themselves, had had some training in yoga or other bodily techniques).

After one of our sessions in 2008, I, as a choreographer and dancer, remarked the following in my notebook:

Technology (the sound feedback) makes them sense the collective body - the entity - and they also sense themselves as part of the environment (the immediate environment being the mass of five dancers, and the global environment, the total space of the theater or studio). Sound allows them to feel, perceive and interact with the dancers with whom they are not in direct contact.

This perception - nascent - occurred from the first day near the end of the session (Choinière 2008).

**Next step: another exchange**

**21-** At the end of the second exploratory session, we had another conversation that allowed them to become aware of the new elements experienced in this situation. During the conversation, we compared the different sensations and perceptions involved in explorations with or without microphones.

**Next step: an exercise to do individually that evening**

**22-** At the end of the exploration the first day, I asked the dancers to do an exercise in the evening at home: to take a bath, alone, in silence, and to immerse themselves completely in water for at least 30 minutes (or an hour) without being disturbed, and to leave nothing but their noses out of the water (head and ears being in the water). I asked them to concentrate on the fact that they were in a 'full environment', that water was touching them (to later on make an analogy with air and for them to feel they were in a form of matter in the studio). I also asked them to focus on the resonance of sound inside their bodies and to remember that sensation as a known and lived sensation when they came back to exercises in the studio the next day. I also asked them to focus on how sound travels through water, and how this 'vibration' of sound 'touched' and 'engulfed' them. And to remember this feeling to be able to use it in the studio. This marked the beginning stages of an awareness of sensation as being an active, not passive, act; a multi-directional tactility and a multi-sensory experience:

[s]ensing, feeling are here the foundations of a new virtuosity of the dancing body, the very basis of gesture that expresses the sensitive. All somatic techniques, more and more present in dancers' training, help refine the kinaesthetic sense by awakening, through micro-movements, the subtleties of a fall, of a breath or of a transfer of weight. Sensing is no longer considered as something passive in relation to movement which is active. In this logic of sensation, 'action is sensing' (Figols 2000, Chapter II, p.3).

But touch [in this exercise, the touch of water and sound vibrations, amongst other things] is primarily movement that extends into a tactile contact and which, in addition to certain qualities,

includes spatial data. Touch can be unidirectional, bidirectional, or when it is more enveloping, multi-directional (Figols 2000, Chapter II, p.7).

**Next step: complexifying and incorporating elements creatively**

**23-** The method continued by complexifying elements already in place: for example, complexifying movement but retaining its connection with breathing; complexifying and increasing awareness of the number of bodily contacts; increasing bodily responses; as well as making other gestural explorations related to these contacts, *et caetera*.

**24-** When I judged the dancers to have sufficient control over the elements in place, the exploratory time pursued until they started becoming creative with the material explored. This meant when they were sufficiently at ease with all the elements involved to begin playing with, inventing and investing in other relationships, gestural elements, rhythms, *et caetera*.

**Next step: inviting members of the Observatory into the studio**

**25-** At this point, I would invite members of the Observatory to come to the studio to see and to also experience (as they too were immersed in the sound environment) the exploratory studies of the project to date. I used their presence (and sometimes a select audience of a few people invited each time) so that the dancers might work on the projection of their stage presence and intercorporeality. Regarding this point, the Feldenkrais technique, with its emphasis on relations between the internal and external, was a source of inspiration for me. This technique had been part of my training and one of the motivations underpinning my desire to invest in a space of interconnection.

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Figure 57: *Inner Connectivity and Outer Expressivity*, in Hackney, Peggy (1998) *Making Connections*

I asked the dancers to become aware of and feel the presence of these people in order to work on the connection between the interiority of the body and what was external to it, possibly through a certain sense of the 'tactile': the tactility of sound as vibration, and also the vibrating form of communication Suely Rolnik speaks of which can also be transposed as a form of communication between performers and audience. Intersubjectivity is constructed on and is rendered possible by:

[...] the ability of the dancer to feel his body, his movements, his own sensitivity in relation to others, the floor and the space surrounding him. [...] A body that lets itself be affected by the world as much as it too is able to affect it (Figols 2000, Chapter II, p.5).

Without recourse to sight, the three-dimensionality of the skin allows me to sense the distance between myself and the wall, between myself and my partner, between myself and silent objects. Conjugated with hearing, it renders a type of spherical, rather than peripheral, "vision"<sup>233</sup>. The frontal fades, the dancer becomes capable of both transmitting the sensitive and of capturing it in 360 degrees (Figols 2000, Chapter II, p.11).

[...] 'Listening' is less about sounds strictly speaking, than about the musicality of the body, the resonance of its movement in space, its density, its kinesthesia, its aesthetic. 'Listening' [...] defines a sensory modality that carries in its wake the entire corporeality: eyes, skin, weight, movement. A multi-sensory concept [...] *par excellence* that demarcates the 'sensitive' in a block, in a complex arrangement of all the senses. 'Listening' binds the senses together, fluidifies them, and facilitates their communication in the same body<sup>234</sup> and sensitive gesture (Després 1998, p.457).

The dancers would resume the exercise from the beginning, and when they felt they were well connected with themselves and the group of dancers, I would ask them to expand this awareness and 'open' their bodies up to the sensation of the presence of the spectators (Observatory):

Work on touch brought to light a series of intersensory variations which continually play on the relationship between proprioception and exteroception, in other words, a continually shifting play in which sensation is put in motion, thus creating a continuous flow between inside and outside. This exchange bears a corporeality that works on the way of "being the movement". It is no longer a question of the dancer executing a gesture, but rather of being this gesture<sup>235</sup> in the same way that inside-outside, touch-touching, action-perception are continually calling out to one another (Figols 2000, Chapter II, pp.11-12).

I asked them to try to develop a sense of including the presence of others and to try to 'touch' them. I also asked the audience to maintain a high level of attention when they entered the studio and to keep total silence. It should be noted that the presence of an audience constituted another element with which the dancers had to contend. They had to work with this additional presence and with awareness of their bodies coming into 'tactile communication' with spectators. It was an additional element of sensory-perceptual destabilisation that required the dancers achieve 'an emptiness of mind' (which is akin to a soothing meditation) and be in a state of openness openness and vulnerability in order to dissolve their psycho-physical boundaries to a certain extent. Through this work and the psycho-physical state they were to attain and be 'in', the

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<sup>233</sup> I would rather say "meaning".

<sup>234</sup> I would also add in the collective body.

<sup>235</sup> And for me, this state of interconnectivity.

dancers were to 'guide' and 'contaminate' the audience, in an empathic manner. This reflects what Figols notes as:

[a] perfect exchange that creates a reversability in which the basic elements are no longer recognisable, and no possible distinction between touch and movement, between the person that touches and the person who is touched [between the performer and the audience] exists. This aesthetic of encounter and coincidence plunges us as spectators into a world of continuous movement, both transporting us and escaping us (2000, Chapter II, p.9).

### **An exchange between the dancers, myself and members of the Observatory**

**26-** These exchanges took place immediately after the explorations while sensation and perception were "fresh" in everyone's memory and in the dancer's body. The dancers' role was to provide information in as faithful a way as possible, so we adapted to their need to discuss their impressions directly following rehearsals or the next day at the latest. If we put off these discussions, the dancers had trouble speaking about their experience because they tended to forget these sensory references. Also, at first, discussions between myself and the dancers were held alone in order to put them at ease. They felt "safe" with me, and I helped them or directed them in the ways of expressing themselves if they felt the need. It was only later in the process that these exchanges extended to include the sound team and at the very end, members of the Observatory.

### **An exchange between myself and members of the Observatory**

**27-** These meetings would include conceptual and theoretical elements. I and members of the Observatory prepared our ideas and discussed them in friendly encounters that were filmed. There was no imposed order to these exchanges. Anyone who wanted to speak first could, but generally, although not exclusively, one theorist began by presenting a concept that was connected to the experience he had observed and lived. Then, I would speak (or another member of the Observatory, but this time, from a more phenomenological point of view of the body that had lived this experience) about how



this concept is experienced in the body and what happens on the sensory and perceptual level. These exchanges intersected and mutually nourished each other, using complementary intelligences, different types of knowledge and awareness.

### **A process of discussion and written reflection**

**28-** The method would extend to an exchange of references (of authors other than ourselves), conference papers, publications, or works in progress. Some of these texts were co-written, involving a mutual questioning and mix of reflections in the texts. These exchanges generated attention and respect. We also shared our texts once finalised. This process forced us to be precise about our observations of my practical work and the phenomenological process and experience it involved, its link with theory and how it influences theoretical elements. These exchanges also allowed us to revisit, repeat, and reiterate the process.

**29-** We also set up exchanges in the form of invitations to conferences we were giving, research group sessions we were participating in, or more informal gatherings over a drink or dinner, sometimes with other scholars, or invitations to university courses we were giving (where I sometimes was invited to speak).

### **Exchanges between the dancers, myself and one or more members of the Observatory**

**30-** These sessions were held no later than one month after explorations in the studio.

As I logged in one of my choreographic notebooks in 2008, 'The dancers forget sensation and its references when the space between exchange sessions exceeds one month. They are no longer able to verbalise because the sensation is too far away' (Choinière 2008).

**31-**During these discussions, one of the members of the Observatory prepared questions with the goal of gaining other types of information, to see how their view of the world could lead to other forms of knowledge (the Observatory members were of different nationalities. This was an intentional part of the research strategy). I only intervened to add items or check details. The discussions were primarily between the dancers and myself, and then between myself and the member(s) of the Observatory. They constituted living testimonies from a phenomenological and not a theoretical point of view.

For my part, I have always been interested in incorporating my dancers' bodily intelligence in my research process because I believe this type of intelligence can work in tandem with other forms of intelligence: cognitive, spatial, mathematical, *et caetera* (see Section 1.8 'The question of multiple intelligences' and, more specifically, subsection 1.8.1 on "Howard Gardner's theory of multiple intelligences"). I use bodily intelligence as a 'guide' in all my practical and theoretical research. Thus, physiological 'intelligence' was used to interact with and complement my theoretical research and, as further, as mentioned in Section 4.3 "Presentation of principles and strategies underpinning my methodology", the researchers involved in my doctoral project all had a background in some form of physical training or experience (yoga, art martial, *et caetera*). They all had, in some measure, the ability to 'understand' empathically what was going on in the body of a dancer and to 'understand' what was going on in their own bodies as well.

On the other hand, few dancers with whom I had occasion to work, wanted to, or felt comfortable with engaging in theoretical reflection. It is still a relatively new and uncommon phenomenon for Quebec choreographers to ask dancers to play the role of a

researcher (in the theoretical sense of the term) along with the rest of a team. I was aware that I was already asking a lot of them to become so heavily involved in my practical research process and out of respect for their lack of desire to participate in these discussions, I did not include them. Agnès Guy, who participated in the experimental Study # 3, was an exception and ventured into making links between what she had experienced and theoretical elements of her personal research.

**32-**These accounts were later integrated in written reflections of the same collaborative nature described above.

**33-** Speaking and sharing with myself and/or the dancers, allowed members of the Observatory to clarify and become more aware of their lived experience and to identify things that are of the order of sensation and multisensory perception. It was a real process of exchanging knowledge. As Susan Kozel notes:

[a] phenomenological document can range from the scholarly to the more poetic, and the document can be visual, physical, written, or spoken. It is up to you to select the most appropriate form for the context. A phenomenological account is evaluated less on formal style than on impact or effect. An effective phenomenology provides enough concrete detail to resonate with the embodied experience of the targeted group of recipients and combines this with a level of theory or conceptual engagement that lends the experience a wider relevance and potential for linking with wider thought. In other words, there is a way between abstract and concrete. Effective phenomenologies open paths between hitherto unprecedented combinations of practice and theory. They are therefore useful, or even essential, when ground breaking work is undertaken that has not yet generated its own associated discourses and languages. This is the case with many innovation occurring at the interface between bodies and computers, and with many interdisciplinary ventures. Preexisting categories do not apply. New categories need to be invented, and these can only be derived by careful attention to the lived experience of the project (2007, pp.54-55).

The forms these various documents took as evidence of this phenomenological experience were the following: the immersive 'live' performance itself, video recordings of the performances and the exchange sessions, as well as conferences and texts (articles, reviews, *et caetera*).

### **5.3.1 An Aesthetic and historical analysis of models of the performative body**

#### **Towards a definition of the collective body: an ontology of the body**

My area of research concerns the body and in order to better understand the new model I propose, my research had to take into account the possibility of an ontological shift of the body when it is in contact with technology. This thesis thus sought to answer, amongst other things, the question: what is the body for us? This is the theoretical node and point of departure for the present section. It was in seeking to clarify this concept, by exploring it both practically and theoretically, that the principal hypotheses of the thesis emerged. These hypotheses, which are linked to the redefinition of the relationship between the body and technology I propose are: an ontological shift of the body; the revaluation and reintegration of the specific intelligence of the body; the development of a 'corporeal potentiality' — linked to the notion of the interval — which lastly lead to the organisation of a new experiential form in the performing arts of which the emergence of other types of performative behaviour belongs.

In the light of these findings and information, I wish to bring these two emerging concepts to the international debate surrounding the issue of the moving body in relation to technology: the physical collective body and the sound collective body, or the collective mediated body.

#### **Overview: different aesthetics of the body**

According to Crémézie (1997, cited in Boisclair 2007), different aesthetics of the body have emerged throughout different periods: '[...] the "rebel body" (Duncan)<sup>236</sup>,

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<sup>236</sup> Isadora Duncan (1877-1927) liberated dance from the fetters of classicism, in substance and in form, firstly through interpretation, by giving voice to the body's internal rhythms through improvisation and then by her rejection of traditional costumes, slippers and tutus confining the body, to rather adorn herself with airy veils that are part of her legend.

the "barbaric body" (Nijinsky)<sup>237</sup>, the "mystic body" (St. Denis)<sup>238</sup>, the "dynamic body" (Humphrey)<sup>239</sup>, the "chthonian body" (Wigman)<sup>240</sup>, the "pulsional body" (Graham)<sup>241</sup>, the "articulated body" (Cunningham)<sup>242</sup>, the "tactile body" (Paxton)<sup>243</sup>, the "fluid body" (Brown)<sup>244</sup>. My research on the collective body expresses the desire to find a performative form that reflects the interconnectedness, the complexity of our world and integrative thinking such as I have previously introduced it. This research reflects the work of Postmodern choreographers<sup>245</sup> in their day and context: a redefinition of the structures and codes of performance/New Dance. Works like *Roof Piece* (1973), *Walking down the Side of a Building* (1970) by Trisha Brown, *Victory 14* (1966) by Deborah Hay, *Temple* (1974) and *Scenario* (1971) by Alwin Nikolais or Steve Paxton's improvisations, to name but a few, reflect these important changes.

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<sup>237</sup> Vaslav Nijinsky (1889-1950) introduced modernity to the tradition of Russian ballet. Developing choreography with lateral displacements, broken bodies without references and unique movement, he dissected classical positions and asked dancers to turn their feet in and bend their knees. His work, *The Afternoon of the Faun*, that evokes orgasm at the end of the choreography, caused a scandal.

<sup>238</sup> Ruth St. Denis (1877-1973) developed her body dynamics around the idea that movement itself is expressed through its dynamics. She thus introduced a dynamic spiritualisation of the human being around three axes: the body, the arts and spirituality, drawing inspiration from Francois Delsarte (1811-1871).

<sup>239</sup> Doris Humphrey (1895-1958) developed her mystical body around the use of ritual religious gesture and emotional gesture. Her works express mystical ecstasy. She envisaged the art of dance as a mystical mobility. Her mystic dances have magic and religious foundations.

<sup>240</sup> Chthonic comes from the Greek word *khthōn* 'earth'. Mythological. Qualifying infernal deities. For Mary Wigman (1886-1973), the 'chthonic body' is an absolute dance of forces coiled deep within the individual. Her famous *Witch Dance* is an example of this: the body is traversed by a terrible tension and in close contact with the ground. This dance is meant to be chthonic, archaic and resonates with rhythmic to the point of going beyond music, seeking to facilitate the expression of primary drives.

<sup>241</sup> Martha Graham (1894-1991) developed her 'instinctual body' around principles based on breath, and the contraction and release of the body.

<sup>242</sup> The concept of the 'articulated body' stems from this principle:

Firstly, what is articulated in the body, are not units of movement, but entire zones of space. Moreover, these areas have no defined boundaries, encroaching on others or fitting into each other. The left area of the body impinges on the front and the back. The space of a hand movement fits into the space of possible movements of the arm, which are in turn covered by the movement space of the forearm. These zones are not really articulated because, from a certain point on, the articulation of movement from one zone brings with it a part of another zone. This is a quasi-articulation of the body (Gil 2000, p.6).

<sup>243</sup> Born in 1939. A description of the tactile body is presented later in this section.

<sup>244</sup> Born in 1936. A description of the fluid body is presented later in this section.

<sup>245</sup> Artistic revolutions in dance, notably with American Postmodernism and Japanese *Butoh* (an abbreviation of *Ankoku Butoh* or 'dance of darkness'), rebelled against institutions such as national dance schools, academies, *et caetera*. They constituted what was deemed a necessary questioning of fundamental choreographic referents, especially time-space relationships as well as phenomena such as 'presence', 'consciousness' and 'reality'.

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Figure 58: Trisha Brown, *Walking down the Side of a Building*, 1978, in Livet, Anne (1978) *Contemporary Dance*

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Figure 59: Steve Paxton, Improvisation examples<sup>246</sup> Figure 60: Steve Paxton, Improvisation examples<sup>247</sup>

Counter-culture in the 1960s led dancers such as Paxton and Brown towards other types of training. The Alexander Technique, Bartenieff, Body-mind Centering, Feldenkrais, Trager somatic practices, as well as the martial arts, reveal a new consciousness of posture, movement and the body moving in relation to gravity and space (Boucher 2005). These techniques develop movement fluidity, bodily consciousness and elimination of stress. Integrated in my creative work, they bring into play the dynamic of the interval, a concept that was discussed in Chapter 2 with the theories of Buci-Glucksmann, Pitozzi and Rolnik.

### **Trisha Brown's fluid body**

To better illustrate my idea, it is interesting to note how Trisha Brown constructed her *fluid body*. In fact, it concerns the manner Brown approaches the

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<sup>246</sup> Viewed 17 December 2013, online: <http://www.contactquarterly.com/images/contact-improvisation/sphistory.jpg>

<sup>247</sup> Viewed 17 December 2013, online:

<http://www.jeanhuguesmiredin.com/uploads/2/1/6/1/2161034/2451546.jpg?430x289>

beginning and end of each danced movement<sup>248</sup>. Influenced by machines in the industrial period, her work reflects the notion of series and transitions existing between movements:

[...] temporal logic is disturbed: the beginning of a movement of a body part takes over from a former unfinished one [...]. This play on the unfinished, on relay and diversion creates an effect of surprise which constantly reinvigorates movement [...]. The choreographer creates a movement that she herself qualifies as multidirectional (Fontaine 2004).

This disruption of the relationship to time also reflects Buci-Glucksmann's positions on the culture of flux and the transitional which were introduced in Chapter 2. For Guy Scarpetta (1992, cited in Fontaine 2004), Brown's movement '[...] installs another configuration' of dance and movement as it changes the rules of choreographic composition. It could also be said to reflect the relationship between changes of perception and the moving body which involve perceptual changes related to time.

### **The introspective body**

Through the contemporary practice of *Butoh*<sup>249</sup> <sup>250</sup> Hideyuki Yano's *introspective body*, develops another relationship with the notion of the interval. For Yano, '[p]ast, present and future being one, time flows in every direction [...]. Distance, as it is an interval, is both spatial and temporal: one can move it, project it into the past or the future' (Yano 1983, cited in Fontaine 2004). Thus, for Yano, memory is no longer a "necessity" as the past is always present. His working method creates new circuits between corporal and psychic memory, between experience and consciousness. His choreography surpasses a geometric and chronometric operation or, as he himself remarks:

[...] it reaches the point of a poetic soldering of time and space. It is like Japanese calligraphy which reveals, by the blackness of ink, the very paper on which it must reveal, in a single brushstroke, a thousand other possible strokes (Yano n.d., cited in Fontaine 2004).

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<sup>248</sup> Trisha Brown (1978) *Watermotor*, viewed 18 December 2013, online: <http://www.trishabrowncompany.org/?page=view&nr=1214>

<sup>249</sup> Viewed 18 June 2008, online : [www.schenk.chore.art.free.fr/danse-buto-definition.htm](http://www.schenk.chore.art.free.fr/danse-buto-definition.htm)

<sup>250</sup> Example of a *Butoh* dance, viewed 18 December 2013, online: <http://www.youtube.com/watch?v=9ms7MGs2Nh8>

This way of producing creative gesture has much in common with the different levels of revelation that technology, as referred to in the present context, can bring.

### **Steve Paxton's tactile body**

Let us now look at the work and strategies of Steve Paxton, inventor of contact improvisation and the concept of the tactile body<sup>251</sup>. Steve Paxton is an improviser who 'takes as bearings tactile, kinaesthetic and proprioceptive sensations rather than repeated and memorized gestures or fixed points in space' (Boucher 2005).

Paxton developed a dance technique based on the exchange of weight between partners in what can be called, according to Suquet (2006, p.424), a sharing of gravity<sup>252</sup>. 'Contact improvisation' or 'contact dance' was created as a perceptual form, because it places the sense of touch at its core. This recalls Merleau-Ponty's first sensory chiasm based on an inherent reciprocity: one cannot touch without also being touched. In this dance, a minimum of two people is required. All surfaces of the body, except the hands, can be used to touch the partner and mobilised as support for abandoning one's weight or receiving that of the other person. It is a strategy of movement based on gravity, that is to say, in which the centre of weight exchange is constantly changing and this centre can be placed in unexpected places.

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<sup>251</sup> Steve Paxton demonstration of contact dance, viewed 18 December 2013, online: [http://artforum.com/video/id=38324&mode=large&page\\_id=3](http://artforum.com/video/id=38324&mode=large&page_id=3)

<sup>252</sup> Paxton was a member of the Merce Cunningham troupe in the early 1960s. He reacted to Cunningham technique in which the dancer always controls the center of gravity in his/her movement.



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Figure 61: Touching one's own hands, example of Merleau-Ponty's first chiasm and the principle of reversibility<sup>253</sup>

With its investment in touch, contact improvisation reflects a 'redistribution of spatial and social codes' (Suquet 2006), because it is based on democratic principles: each partner, male or female, is in turn either supporting or being supported in partner work. According to Suquet (2006), contact improvisation has introduced a veritable transformation of bodily experience. It figures amongst the twentieth century dance forms that have most profoundly reinvented the perceptual sphere:

In this dance of touch, the largest organ of the body, namely the skin, develops an extreme sensitivity that has nothing superficial about it. Not only do tactile sensors distributed under our skin inform the brain about the state of weight, mass, pressure and effort, but they can also, if necessary, act as an alternative vision. And this is part of what happens in the exchanges of contact dance, where visual references undergo changes that are too fast to serve as bearings. The dancer's movements are essentially guided by tactile information awakened by through the 'touch of weight'. No other dance form in this century has so radically dismissed the cultural precedence of the gaze (*du regard*). Only peripheral vision remains essential, allowing one to scan a horizon of moving shapes. Contact dance amplifies this modality of vision. A sensation of 'spherical' space results from its expansiveness (Suquet 2006, p.426).

This description can also be related to Merleau-Ponty's description of the second sensory chiasm as a quality of intersensoriality. Further, modulations in the transfer of weight partially define the rhythm of movement, the kinetic stamp of gesture, as well as the entire organisation of a choreographic structure. These elements are all interrelated and dependent. According to Suquet, '[b]ecause it works with weight, dancing is a potent activator of past states of the body. It indeed mobilises fundamental memory. We now know that it is inscribed, not in neuronal circuits, but in the plastic modelling of

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<sup>253</sup> Viewed 11 November 2014, online: [http://article.wn.com/view/2014/06/02/Lygia\\_Clark\\_compliment\\_d\\_objets/](http://article.wn.com/view/2014/06/02/Lygia_Clark_compliment_d_objets/)

tissues that generate the body's tensional organisation' (Godard 1993, cited in Suquet 2006):

Fascia, that is to say, the connective tissue that surrounds and interconnects all other structures of the body (muscles, organs, *et caetera*), produces memory beneath all consciousness. It is literally sculpted by the hazards everyone encounters in the history of verticality. Fascia constitutes bodily recordings, shaping the postural characteristics of an individual (Suquet 2006).

Hence, the importance and benefits of using a strategy of destabilising weight and the centre of gravity with performers in order to counter the effects of "choreographic neurosis" referred to by Godard (Kuypers 2006) in Chapter 1, Section 1.8.4.

### **Contact dance: one starting point for new performative stages integrating technology**

According to Suquet (2006, p. 427), contact dance, to this day, continues to exert influence in the field of choreography, and synthesises several issues surrounding contemporary dance. Suquet states that it nevertheless has limits because, amongst other things, its form and structure are radically subservient to its process. I do not agree with Suquet's point of view. From my basis of research, I rather argue that contact dance can be a starting point for the new contemporary performative scenes integrating technology through the extreme relationships it develops with its various strategies of perceptual disruption as well as its use of touch and the skin as main organs involved in propulsing the moving body. According to the findings of my thesis, a direct link of stimulation can be made with Merleau-Ponty's first and second sensory chiasms concerning awareness of *the body from within* as well as with Godard's (1993) theories, which both explain the role of touch sensors and their stimulatory effects on fundamental memory that I have just referred to.

## **The collectif body: a first glance**

Within this framework, and as articulated by the perspectives introduced and developed according to these different practices, my practical research proposes an original contribution to the development of research on the body in the field of the performing arts through a new formulation of the body: the concept of the collective body.

My research identifies the origin and principles underpinning the collective body as stemming from a concept developed by Brazilian artist Lygia Clark (1920-1988). According to Guy Brett, a critic who has studied Clark's work, the concept can be related to the notion of cultural '*Canibalismo*' (cannibalism) (Andrade 1928) that, for Clark, is '[...] like entering each other's bodies [...]' (Brett 2004, p.40). This process involves 'an experimental dissolution of the psycho-corporeal boundaries between people' (Brett 2004, p.41). Brett also states that, through her work, Clark,

[...] was able to dilute the notion of surface, resolve the subject/object dichotomy and propose the experience of communication in models of dialogue [...] her work provides a point of clarity in the midst of this confusion and becomes ever more pertinent (2004, p.47).

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Figure 62: *Cannibalistic Drool* (1973)  
Lygia Clark<sup>255</sup>

Figure 63: *Lunettes* (1968) Lygia Clark, relational object<sup>254</sup>

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<sup>254</sup> Viewed 11 November 2014, online: <http://dautresregards.free.fr/Transmis.html>

<sup>255</sup> Viewed 11 November 2014, online: <http://www.artsetsocietes.org/f/f-danesidon.html>

Brett thus introduces the idea of a 'dissolution of psycho-corporal boundaries' that was developed by Suely Rolnik (n.d. c), a concept which was introduced in Chapter 2 and which establishes a crucial link in determining the communicational paradigm this thesis proposes.

Also, in a section of the catalogue entitled "The body is the house: Sexuality, invasion of individual "territory" ' (Rolnik & Diserens 2005), Lygia Clark describes the sensorial phase of her approach (which served as an inspiration for the development of my concept of the collective body), called *Nostalgia do corpo*:

[n]ow, the body is the house. It is a communitary experience. There is no regression, because there is opening of Man to the world. He connects to others in a common body. He incorporates the creativity of the other in the collective invention of the proposition [...]. But every experience was individual and risked closing in on itself<sup>256</sup>, whereas now, it is both personal and collective, since it is constantly connected to that of others, in the same polynuclear structure (Luz 1975; Rolnik & Diserens 2005)<sup>257</sup>.

This openness to the world is the key concept underpinning the notion of corporeality as proposed by Bernard (2001) and Merleau-Ponty's theories. Working as a visual artist and then in the field of art therapy in the last phases of her life, Clark developed a particular method with, amongst other things, what she called 'relational objects' such as pieces of clothing people could wear which engaged them in contact with one another.

What I find particularly interesting about Brett's explanation which resolves the object/subject dichotomy characteristic of dualist thinking and also Merleau-Ponty's anti-dualist positioning and Clark's notion of of being one and many at the same time, is its link to Merleau-Ponty's three sensory chiasms and principle of intercorporeality as a principle of corporal communication. With my concept of the collective body that will

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<sup>256</sup> Lygia Clark refers to experiments on the collective body she conducted at the *Sorbonne*, Paris, with a group of students.

<sup>257</sup> Viewed 11 November 2014, video online:  
[http://article.wn.com/view/2014/06/02/Lygia\\_Clark\\_compliment\\_d\\_objets/](http://article.wn.com/view/2014/06/02/Lygia_Clark_compliment_d_objets/)

now be presented, and also in the description of my experimentations to follow, it will be seen how the chiasms are in direct resonance with it.

### **The development of my collective body following this model**

To push the concept of the collective body that I experimented with further, I realised that using strategies of directed explorations to stimulate sensory and perceptual destabilisation would be helpful. In this way, I was able to counter bodily habits to awaken a state of receptivity that could lead the performer becoming more permeable to subtle sensory flux:

Laban stated that in effect, perception was *halfway to possession*. If (the dancer) suspends interpretation to let all sensory correspondence resonate and emerge, he does not [however] refuse it: moments of enunciation, interpretation, narrative and the passage to the imagination come in a second stage. It is thus that the work of dancer resides in his capacity of suspending thought into words, and then coming and going between sensation and perception (Launay 1996, p.96, cited in Figols 2000, Chapter III, p.8, original emphasis).

This can, for example, take the form of applying a strategy of self-organisation of movement through sensation and of gravity displacement with five dancers in constant and full contact; of eliminating spatial references, and thus the peripheral vision of performers; of constructing internal space as a central and prioritised reference; or of integrating a dynamic creation of sound in real-time. These states involve risk and a loss of bearings that leads to building other types of bearings. These strategies therefore open up a perceptual disorder that was used as a strategy of creation. They reflect what Després notes as:

[...] placing 'sensation of movement' at the heart of the practice of contemporary dance, [where] the dancer's body becomes, not the one he knows from the outside by analogy with the body of the other, but rather the one he feels from the inside and that is one with the sensation he has of himself: rather than being oriented towards the world of having, the dancer *is* a body (Després 1998, p.114, original emphasis).

[...] the logic of sensation which presides danced movement is opposed to the logic of reproduction, imitation and molding. Danced gesture cannot simply be copied gesture. Sensation is called upon to bring forth highly evolving and creative movement (Després 1998, p.16).

In this kinaesthetic drunkenness, bearings are lost in order to awaken slumbering motor and experiential mechanisms.

According to cultural critic Louise Boisclair (2007), a member of the Observatory, who came to document the first stages of experimentation of the work in Study #2 on October 6, 2006 in temporary studios at *HEXAGRAM-Centre for Research-Creation in Media Arts and Technologie*, Montreal, my research seems to develop another kind of dance aesthetic: a '*trans(e)dance*', comprised of the contraction of the words: *trance*, *trans* (recalling the transdisciplinarity of my research and corporal work), *dance*, and (*e*) for energy, electronic, elasticity and electricity (2007, p.56).

Louise Boisclair<sup>258</sup> qualifies the collective body – the corporal and sound bodies – as a 'larval body'. This body is a form of 'collective resonance' (here I refer to Rolnik's theories that were analysed in Chapter 2). Adopting strategies from somatic practices to allow for both the renewal of kinaesthetic and exteroceptive elements, the potentiality present in the interval of the collective body was inspired by some of the strategies of Paxton's tactile body, Brown's fluid body and the introspective body of *Butoh*, of which I spoke of earlier. According to Louise Boisclair (2007), one must understand this:

[l]arval body [*corps larvaire*] in terms of an "embryonic body". This qualification does not refer to individual dancing bodies that are more energetic and malleable; but rather defines an extended sound body, in a newborn state, inchoate, unfinished, always seeking to develop and balance itself. This embryonic body, created from an extended sound body, represents a state of fluid gestation in perpetual movement [...] (2007, p.55).

For Boisclair, '[t]he spectator internalises the work, with a full loss of bearings, in a mental and corporal space enlarged by this experience' (2007, p.56). Technologies, used in this way, facilitate:

[...] the apparition of both a physical and digital creature, visual and aural, a collective body composed of individual bodies connected as an extended sound body, as if it was the mirror of invisible exchanges between human beings in the intimacy of physical, energetic and kinetic bodies on the one hand, and on the other, of digital and sonic ones (Boisclair 2007, p.56).

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<sup>258</sup> Louise Boisclair is a cultural critic and member of the international research group I created for my doctoral studies. Her reflections and conclusions derive from the integrative and transdisciplinary methodology that the group is exploring based on the evolutive intersection of practice and theory. She was present during most of the transitional phases and presentations of my work. This working group has written extensively on the methodology I invited them to witness and participate in.

Here, Boisclair argues that the collective bodies I am developing correspond to the principle of flux or motion, of corporeality, echoing the idea of intercorporeality expressed in the theories of Rolnik and Merleau-Ponty in particular<sup>259</sup>.

### **5.3.2 The collective body: an experience of the body moving towards a loss of bearings**

Let us now look at the experiments that were conducted on key strategies of sensory and perceptual destabilisation, as well as at concepts with which they resonate. To begin, the following information will help to situate and contextualise these experiments.

#### **Practical information concerning the background and contextual elements involved in the practical research**

##### **General Notes**

##### **Video documentation**

All the videos documenting this thesis were made within the same context. Given the cost and logistics involved in video production, I took full advantage of every opportunity that organisations or individuals provided for documenting my work. These videos document work in Studies # 2 and # 3 of the thesis.

No lighting concept was developed during these phases of work and therefore, lighting was rather functional by nature, that is, mainly to light bodies so they could be filmed. The only aesthetic concern taken into consideration for the lighting in these videos was that of giving the impression, in the first scene of Study # 3 at the *Centre de*

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<sup>259</sup> This article is provided in Appendix 8.2.1 in its original language, French.

*développement chorégraphique*, Grenoble, in May 2008, that the bodies were floating in space, as if being above the ground. The lighting comes mainly, or only, from the ceiling.

### **Technical information**

All pertinent technical information is provided in this document. Certain information that I judge of secondary importance, is not available for reasons of personal, artistic or commercial confidentiality.

### **Agreements relative to the collaboration**

It was agreed that all designers who participated in the research process could use the ideas and concepts they themselves had developed for the project. No other agreements for contractual, legal, commercial, financial or other purposes exist. Similarly, I (Isabelle Choiniere) can use all the material developed in these explorations. The concepts of the physical and mediated collective bodies (sound) stem from my own research. These concepts cannot be used by anyone but myself. I was responsible for the direction of the research and its artistic dimension in this collaborative process (that is to say, I had the last word on any direction if we could not jointly agree about it).

### **Notes on the Appendices and videos on DVD**

Translation in English is made of certain passages only of interviews and/or articles by different researchers and art critics who studied and observed Studies # 2 and # 3 of the project. Only passages that serve as evidence to support my theories are translated and incorporated into the texts of of the thesis itself. Full articles are provided in the Appendix in their language of publication, and interviews are provided on the DVD also in their original versions.



## **General information regarding Studies # 2 and # 3**

### **Study #2**

Study # 2 was conducted at the *Centre for the Arts of Enghien-les-Bains*, in the city of *Enghien-les-Bains*, a northern suburb of Paris, France. It took place during a residency of five weeks from October 16th to November 19th, 2006. The residency terminated with two performances on the 18th and 19th of November, 2006. This phase of work was called Phase # 2 or *Study # 1 for the Electric Body - Phase 2*. In this thesis, it is called Study # 2.

In preparation for this residency in the summer and fall of 2006, I conducted research on devices that might be able to interact with a collective body involving a group of five dancers in constant physical contact. This particular research was done in collaboration with students (under the supervision of their teachers) at the Department of Interactive String Instruments at McGill University, Montreal.

### **Study #3**

This study was conducted in two stages.

The first stage took place in France from April 4th to May 3rd, 2008.

It began with auditions to select new dancers at the *Micadanses* studio in the fourth arrondissement of Paris on April 4th, 2008.

It then resumed in the studios of French choreographer Philippe Decouflé - Company *D.C.A.* - in the Parisian suburb of St-Denis from April 7th to 11th, 2008.

Thereafter, rehearsals were held at the Choreographic Development Centre (*C.D.C*), *Le Pacifc*, in Grenoble in southern France. This phase took place during a residency of three weeks from April 14th to May 3rd, 2008. It was mainly conducted at

the *C.D.C.* The residency terminated with a single public performance on May 3rd, 2008.

The second stage of this phase of research took place in Montreal in a theatre called *Tangente* from May 27th to June 5th, 2008. The residency terminated with three performances, on the 3rd, 4th, and 5th of May, 2008.

These stages of work are grouped under the name Study # 3.

I developed these phases in places that were offered to me as residencies. Rental costs of equipped performance spaces were very high.

### **Time line of the meetings and publications concerning the Observatory**

What follows is a chart of the various meetings that took place with members of the Observatory and myself, and an outline of the various actions that took place. It should be noted that the influence of these events was not experienced in a linear fashion, but rather in the actual moment as well as in a mnemonic (memory-related) space that developed in interaction with practice. These temporal crossings uncovered moments of inspiration, creation, perception and understanding of the dynamics of research that was set up in the framework of my doctoral studies. Information on the members of the Observatory is included as well as a list of articles produced by its members and Dominique Besson, the composer for Study #2, during the doctoral period.

Study presentation date

First meeting dates with I. Choinière, informal meetings and e-mail exchanges.

[Contact with texts produced by 'the Observatory'.](#)

An Observatory documented meetings.

Note: after each meeting in person with any members of 'the Observatory' (Isabelle Choinière, Enrico Pitozzi, Louise Boisclair, Elysaabeth Plourde), the exchange of e-mails rate was on average 6

times a month for the two first weeks. After, they fluctuated. It was between 4 to 1 exchanges a month.

February 2003 - I. Choinière meets Elysabeth Plourde in a Quebec festival during the presentation of *la Démence des anges*. E. Plourde studies the work of I. Choinière in the context of her doctoral studies at Laval University. After, regular informal meetings and e-mail exchanges of sources, texts, between I. Choinière and E. Plourde.

October 14, 2005 - I. Choinière meets Enrico Pitozzi in Enghien-les-Bains, France. E. Pitozzi studies the works of I. Choinière in the context of his doctoral studies at the University of Bologna in Italy. After, regular informal meetings and e-mail exchanges of sources, texts, between I. Choinière and E. Pitozzi.

October 6, 2006 - I. Choinière meets Louise Boisclair in Montreal. She studies her work in the context of personal research as an art critic. After, regular informal meetings and e-mail exchanges of sources, texts, between I. Choinière and L. Boisclair.

October 6, 2006 - Presentation pre-Study #2 // Hexagram.  
Louise Boisclair is present.

November 16-17, 2006 - Presentation Study #2 // *Centre des arts d'Enghien-les-Bains*, France.  
Enrico Pitozzi is present.

November 2006 - Isabelle Choinière is interviewed by Enrico Pitozzi.

July 2007 - I. Choinière reads the first draft of the *INTER* article written by Louise Boisclair (2007).

August 2007 - I. Choinière reads the final text of the *INTER* article written by Louise Boisclair (2007).

September 19, 2007 - Presentation pre-Study #3 // Rehearsal studio (*Studio danse Montréal*) in Montreal.

Louise Boisclair is present.

May 3, 2008 - Presentation Study #3 // *CDC Grenoble*, France.

Juin 3-5, 2008 - Presentation Study #3 // *Tangente*, Montréal, Canada.

Enrico Pitozzi and Elysabeth Plourde are present.

June 6, 2008 - I. Choinière and Louise Boisclair read the text *Sismographie de la presence* by Enrico Pitozzi (2008).

June 6, 2008 - L. Boisclair meets E. Pitozzi. After, regular informal meetings and e-mail exchanges of sources, texts, between I. Choinière, E. Pitozzi and L.Boisclair

June 2008 – Informal meetings (dinner) between I. Choinière, E. Pitozzi and L.Boisclair

April 2009 - I. Choinière reads the published text of Dominique Besson (2009) *Le corps sonore, entre écriture chorégraphique et écriture musicale*.

April 24, 2009 - I. Choinière (in press) sends her text for Cambridge Scholar Publishing to Enrico Pitozzi (concerning the notion of the interval).

April 24 and 27, 2009 - I. Choinière sends the text of Dominique Besson (2009) to the three members of 'the Observatory'.

April 27, 2009 - I. Choinière sends the text of Enrico Pitozzi (2008) *Sismographie de la présence* and the text of Louise Boisclair (2007) published in *INTER* to the members of the Observatory.

Spring 2009 – I. Choinière becomes involved in the research group '*Effets de présence et Performativité*' at *U.Q.A.M.* L. Boisclair and E. Pitozzi are also members.

May 4, 2009 - first official meeting of the Observatory - documented.

Week of April 24, 2009 - exchange between I. Choinière and Enrico Pitozzi (2009a, 2009b) who co-write the article published in *Art'O* and *Archée*.

May 20, 2009 - Interview with Dominique Besson, composer, in Paris, France.

June 17, 2009 - I. Choinière sends the text of her RDC2 to E. Pitozzi.

September 2009 - I. Choinière sends the structure of her doctoral thesis to E. Pitozzi.

September 4, 2009 - I. Choinière sends the text of her RDC2 and her text for the Cambridge Scholar Publishing (concerning the notion of the interval)– Choinière (in press) to L. Boisclair.

September 21, 2009 - I. Choinière sends the text of her RDC2 and her text for the Cambridge Scholar Publishing (concerning the notion of the interval) – Choinière (in press) to E. Plourde.

November 4, 2009 - I. Choinière attends the conference of E. Pitozzi at *U.Q.A.M.* November 6-7, 2009 at *Conférence sur les personnages virtuels*.

November 2009 – Informal meetings (dinner) between I. Choinière, E. Pitozzi and L. Boisclair.

November 10, 2009 - I. Choinière sends the texts: Pitozzi (2009a, 2009b), Boisclair (2007), Besson (2009) to E. Plourde.

November 10, 2009 – series of exchange between the members and I. Choinière.

November 13, 2009 - I. Choinière sends the text of E. Pitozzi (2009a, 2009b) to L. Boisclair.

Week of November 19, 2009 – series of exchange between the members and I. Choinière

November 22, 2009 - second official meeting of the Observatory - documented.

January 2010 – Informal meetings (dinner) between I. Choinière, E. Pitozzi and L.Boisclair

March 2010 – I. Choinière reads the article of E. Pitozzi (2010a).

Octobre 2010 – Informal meetings (dinner) between I. Choinière, E. Pitozzi and L.Boisclair

Novembre 2012 – Informal meetings (dinner) between I. Choinière, E. Pitozzi and L.Boisclair

January 2013 – I. Choinière reads the article of E. Pitozzi (2010b).

### **5.3.3 Sensorial and perceptual destabilisation as a learning process**

In this section, I continue the presentation of my main strategies of destabilisation, which are in fact my creative strategies, and that were central to my practical research process.

#### **5.3.3.1 Proximity as a strategy of deheirachisation**

##### **Space - the placement of spectators**

##### **Study #2**

The space in which we worked at the Centre for the Arts of *Enghien-les-Bains*, was called the *Arts Space - Studio 19*. It is a space without bleachers: a black box with a lighting grid. The technical plan of the space is available in Appendix 8.3.2.

The dimension of this space was 191.80 square metres. It was thus a square space. We placed the technical booth in one corner of the room. We had access to four

speakers that were placed in the four corners of the room, hung from the ceiling. The space could accommodate an audience of forty people. Spectators were placed in a circle around a central space and close to the walls. The performance area was in the centre and consisted of a circle whose diameter was six metres wide.

Spectators were at a distance of two metres from the performance space. Instructions were not given to the public as to where to sit: they placed themselves against the walls of their own choice or not.

### **Study #3**

The portion of the residency that was held in the studio of choreographer Philippe Decouflé from the 7th to 11th April, 2008, only served to teach the dancers choreographic material that had already been developed (Study #1 which is not analysed in this thesis and served as a basis for the work). This study is not analysed here. In the Decouflé studio, I worked alone with the dancers and without technology.

At the *C.D.C. Grenoble*, we took up a residency in the theatre space which was called the North Pacific (a large plateau) which is actually a multi-functional room: a black box equipped with a lighting grid, whose dimensions were 15 metres by 18.75 metres (part of the space was occupied by bleachers which we did not use). The technical sheet and plan of the space are available in Appendix 8.3.3.

We had access to eight speakers that were installed on tripods (belonging to the composer Dominique Besson). The performance space was the same as in Study # 2: a circle in the centre of the room whose dimension was six metres wide.

Spectators were located at a distance of one metre from the performance space. We asked them to walk around the performance space in the dark. Spectators were

willing to follow these directions, but shortly after the start of the performance, went to sit on the bleachers that were approximately four to six metres away from the performance space. Audience members told us afterwards that walking in the dark demanded too much concentration and the fact that other spectators momentarily crossed their paths, thus blocking their view, was distracting. According to their accounts, the complexity of the human and sound form demanded too much attention while moving in the dark. Also, according to spectators' accounts, the performance demanded complete immobility to be able to focus on the performative forms. I was also of this opinion, also because I was concerned by questions of the necessary distance to experience the performance. There are no recordings of interviews with the audience members that documents their account of the performance, but a discussion session was held immediately after the presentation. It was during this time that I collected their comments. The spectators were very disturbed by the performance. Even if they were given the chance to speak, it took them several minutes of silence before speaking. They seemed to be under the influence of some kind of shock.

In Montreal, we took up residency in a theatre called *Tangente*. The hall was 21.7 metres by 8.9 metres. It was therefore rectangular. The technical sheet and plan of the space are available in Appendix 8.3.4.

The performance space was the same as in Study # 2: a circle in the centre of the room whose dimension was six metres wide.

However, given the narrowness of the hall, we were obliged to place the speakers in an oval shape and not in a circle.

Given the size and shape of the hall, which seemed problematic, we prepared for the audience to sit a quarter metre away from the performance space. Spectators were



positioned at the extremities of the space that was ovular. The technical booth was at one of these extremities, immediately behind the audience. The audience sat on chairs. Spectators made the same comments as the audience in Grenoble ie. that this research required a high level of concentration in order to experience the work and that spectatorial immobility was necessary.

### **Development and progression from Study # 2 to Study # 3**

Changes in distance to the position of spectators happened by chance and was experienced due to the narrowness of the *Tangente* hall. This constraint was significant in the sense that it made me consider the principle of proximity as an important sensory-perceptual destabilising factor for the dancers, but more importantly, for the spectators.

### **Evidence - comments by members of the Observatory**

In Study # 2, I had begun to explore a strategy of spectatorial circulation, as well as proximity. Here is the account of Louise Boisclair, member of the Observatory, on these notions, in which she explains that the effect of the collective body is much more important and interesting than the notion of spectatorial circulation which, as a consequence, was to become secondary. The issue of proximity and its complement, dehierarchisation, are introduced in Chapter 5 in Section 5.2.

### **Video: File 08-DVC C2 Observatory 01**

**Video 1:** 09:17-11:14 - Louise Boisclair - Phase # 2

I remember very well standing up and going for a walk around the performance space. Aside from feeling that I had just moved, I did not feel this displacement changed much. It didn't bring me anything else at the time. When you spoke to us before the start of the performance, I also remember your telling us about how you were inspired by the works of Picasso and Bellmer. For me, it sparked a visual representation, even before the performance began. It really shaped my reading of the performance. And actually, I found that the five dancers who were in constant physical contact - even if one was more or less on the outside, or on the periphery, or because she was lying down longer - for me, I kept the impression that there was still contact between the five dancers, even if this contact was not direct, not an embrace. The impression that stayed with me from the beginning, was that it quickly became a mass, it quickly became a collective body... and there was also the nakedness that was important... There was the link with Picasso and his completely fragmented, disproportionate figures, as if there were body parts that were getting

lost. For example, at times, it was the legs of one person, the legs of another. So at some point, all this was moving. There was not a lot of verticality in this performance (this phase of research), although perhaps there were legs that went upwards at certain points. So the fact of walking, to move around, was a bit secondary in this performance.

Quotation have approval to be used

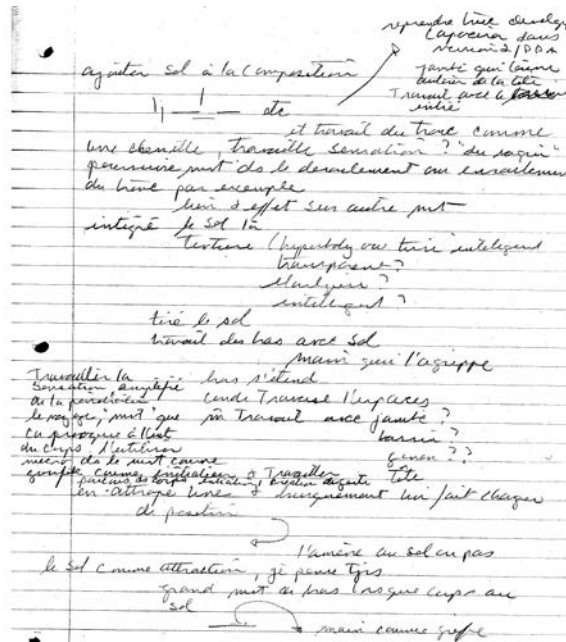


Figure 64: Study #3, *Morph*, choreographic notes- floorwork, 2008

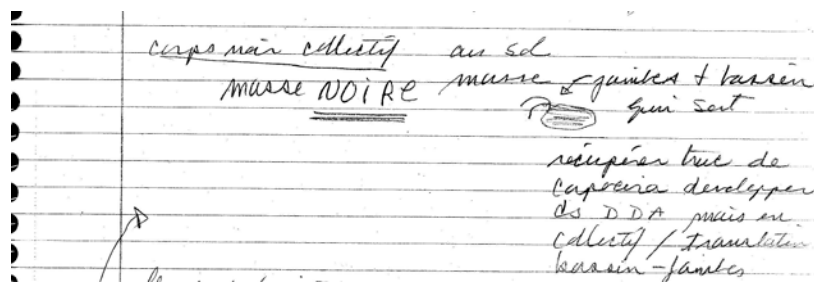


Figure 65: Study #3, *Morph* (2008) choreographic notes- floorwork and work with legs

Figures 64 and 65 have approval to be used

**Video 2:** 22:25 – 22:54 Louise Boisclair– Phase #2

Also, in my opinion, the more you can contemplate a work unfolding, the more deeply you enter into the visual capturing you must do as a spectator. So for me, from the moment it is necessary to move, that I have to move, I start thinking about where I'm going to put my feet because it is dark, and I am no longer watching. And indeed, it is a distraction.

**Video : 13 - DVC Observatory C2 /**

**Video 3:** 00:55 – 02:23 Elysa Plourde – Phase #3

On this question of the reception of the spectator, I would say that concentration at *Tangente* (Study # 3) was optimal because we didn't have to worry about our bodies in space. It was the

environment that did it for us, the device did it for us. So you don't hear things in the same way, because when you move, you create your own spatialisation. It is not the speakers that move.

Here, Elysabeth Plourde reacts to Louise Boisclair's opinion that it would be good that spectators have the choice to either move around or to sit. It should be noted that Louise Boisclair had not been present in the Study # 3 experimentation when I integrated spatialisation for the first time, whereas Elysabeth Plourde had experienced it in Study # 3:

### **Video : 13 - DVC Observatory C2 /**

**Video 4:** 05:59 – 06:33 Elysabeth Plourde – Phase #3

Yes, but at the same time, if you get up, and I decide not to get up and stay seated, then your decision to walk in front or behind me, will completely change my own perception. So if you pass in front of me, it becomes a problem, it disturbs me. And if you go behind me, as the sound is behind me, you are going to interfere with the sound and reduce my reception as a spectator.

### **Video : Fichier 08-DVC C2 Observatory 01**

**Video 5:** 23:13 – 25:37 – Enrico Pitozzi– Phases #2 and #3

In this regard, for me there is one thing that is very interesting in relation to Study # 2 at *Enghien-les-Bains* compared to Study # 3 in Montreal. At *Enghien-les-Bains*, we, as spectators, had the opportunity to move around, but for me, being able to move was not very interesting. It does not work, because I believe you have to be still, stable. It must be understood that there are two things that are moving: the body (the spectator's) and then, sound. So for me, the third phase is much better because you are stable and you are very close to the dancers, so you have a second opportunity to see the details of movement. You find yourself in an immersion that is not only in sound, but also an immersion of sight, because through this immersion, you can see precise details of movement and this detail is three-dimensional (3D). So you have the opportunity to see before you the movement of the collective body, up close, and then behind you, you have the movement of sound (spatialisation). And so, it is not necessary to move around. You have the spatialisation of sound (which moves behind the viewer), in the centre, you have the spatialisation of the body (the physical movement of the dancers in the performance space). The spectator is stable and you find yourself in what I would call a form of visual flow for the body in motion, and a form of sound flow for spatialisation. So there is no need to move around.

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Quotation have approval to be used

**Video 6:** 29:49 – 30:40 – Enrico Pitozzi– Phase #3

I would like to continue by expanding on the issue of proximity. I can say that this strategy gives me the ability to see details. On the one hand, it allows me to have a much stronger relationship from a visual standpoint with Bellmer's work that was an inspiration for Isabelle. So when I am up close, I completely lose the shape of the body and am therefore in a real transformation of the body because there is no direct relationship between anatomy (Pitozzi speaks of anatomy in the sense of the Greek root of the word: to open the body, the interior of the body), the shape of the body and its movement. So if I have the opportunity to watch the dancers' bodies very close up (0.25 metres), I completely lose the shape of the body.

Here, Enrico Pitozzi begins to introduce the impression of an empathic dimension. The group continues discussing this matter throughout this section. I analyse the question of empathy in Chapter 1 in Section 1.8.2.

### **Video : Fichier 08-DVC C2 Observatory 01**

**Video 7:** 31:30 – 32:31 – Enrico Pitozzi– Phase #3

Proximity could also be an answer for understanding the relationship between movement and sound. From my point of view as a spectator, proximity gives me the opportunity to really feel engaged in the movement of the body and also to be able to perceive and thus to hear, the relationship between the movement I am viewing and the production of sound that comes to me through sound spatialisation. So I am able to understand this relationship, because I have the opportunity to try out directly in my body the movement I am viewing and I am thus able to recognize the relationship between the movement that I am viewing and the sound that comes through spatialisation. It is thus my perception and proprioception that change completely, so this relationship which I am speaking about is activated in my own body.

Here, Enrico Pitozzi links the question of cannibalism (a Brazilian concept that can be compared to the effect of contamination) with the question of empathy.

### **Video : Fichier 09-DVC C3 Observatory 01**

**Video 8:** 08:12 – 08:58 – Enrico Pitozzi– Phase #3

So through this phenomenon, you find yourself being really active, but on a level that does not allow you to move. That is the whole issue with cannibalistic gesture, it is exactly the same. You have the ability to recognize what they are doing on stage, but where do you have the opportunity to recognize it? The answer is in your body, in physicality. And so, you do not move, but your muscles and your nerves have the ability to completely recognize what you are looking at.

Enrico Pitozzi and I began to question the choice of technology for implementing strategies of sensory and perceptual destabilisation and thus to change the relationship with the interface and therefore with technology. These points were discussed in Chapter 1: the question of changing the relationship with technology throughout Section 2, and strategies for sensory-perceptual destabilisation in Section 4.

### **Video : Fichier 08-DVC C2 Observatory 01**

**Video 9:** 34:44 – 35 52 – Enrico Pitozzi– Phase #3

Also, I would like to pursue the question of proximity and therefore of distance. For me, I find that I need distance when I have a form of communication. But for me, the question of proximity is a question of strategy. Proximity is a compositional strategy, so this gives me the opportunity to work on the same level as Bellmer's images. When I speak of the same level, I refer to the decomposition of form (the aspect of dehierarchisation in this research). So proximity is one of possible strategies to obtain a decomposition of form. If I can give an example, it is exactly like using microphones for the voice. This leads to two options: using microphones to enable spectators who are over there to hear (the text of Hamlet, for example), or it gives us the opportunity to allow the spectator out there to not understand the text, but to listen to the production of vocals, such as the granularity of a voice. So this is a way of getting closer to something technologically.

#### Video 10: 35 :53 – 36 :27 – Isabelle Choinière– Phase #3

And I'll continue, clarifying that it gives us the opportunity to listen to the source of sound production. So it's almost from the dancer's point of view. When the dancer is in the space, she hears herself produce sound, but there seems to be confusion between what she does and the technological production of sound. In this research, with the collective body, the confusion is even greater, because the dancer is required to take everything into account in the phenomenon of perception. So it distorts perception. This double element is always present, you always have a bit of both.

#### Video 11: 38:06 – 38: 38 – Enrico Pitozzi – Phase #3

Also, proximity is a way of multiplying things. Because if I'm far away, I can divide what I am looking at, because I can understand that the two arms I see are those of a single person and other ones, those of another person. But if I'm very close, I am not able to make this division.

Louise Boisclair makes a link between the notion of distance between the dancers in the collective body and the notion of spectatorial proximity as a strategy of empathic contamination.

#### **Video : 14 - DVC Observatory C3**

#### Video 12: 13:06 – 15:34 - Phase # 2 and pre-Phase # 3

For me, the notion of distance is important. It is mentioned very little and little attention is paid to it and you either approach someone or you move away from them without recognizing much what is happening. Me, if I move back at some point, it is because I have less focus on what I wanted to look at because proximity may be too great (here, Boisclair specifically refers to a general point of view and not to the study of work under question) or because something is more intrusive. (From here on, she speaks about the phase of research) The distance between the dancers, when it has been 10 minutes, 15 minutes, 20 minutes, 30 minutes that you have been looking at them, is no longer just a phenomenon of something that happens in front of you, even if it is frontal. It is something that you are incorporating in your memory despite yourself, in your body, by empathy, in your visual memory, in your sound memory. The question of distance, I believe there is real research to do with it. I really suggest you look at the chapter on distance in Edward T. Hall's book *The Hidden Dimension*. He studied how distances are defined, using control groups. In intimate distances, mating takes place where only 10cm exist between bodies and where everything becomes dehierarchised in your vision. Skin, with respect to the notion of detail we spoke about earlier, if you are very close to me (she shows me her face with her finger), then you see my blackheads, you see other details, but if you're over there (at 1 metre), already you find yourself with a wider angle of vision, so you see things differently. Things

become fuzzy, blurred, peripheral and if you walk away even further, the further you move away, at a certain point, you cannot see the three-dimensionality of the body. You no longer have outlines, you see the body as flat. So in this research, the proximity of which you speak, is very important.

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Quotation have approval to be used

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**Video 13:** 20:43 – 21:46 - Enrico Pitozzi speaks of the collective body – Phase #3

Proximity is also a way of sensing space, because your relationship to space is different. But I think that the question of proximity is a very important issue for the spectator as is the phenomenology of reception. Because if you have the possibility of completely breaking the power of vision, you obliged him/her to appeal to the other senses. Vision cannot be comprehensive, so it completely loses its function. So you are therefore able to rearrange your perception of the event through other channels. So this is a way of reorganising the spectator's body.

**Video 14:** 21 :22 – 21 :35 - Louise Boisclair – Phase #2 and pre- Phase #3

There is also be a mirroring effect (*mise en abyme*) that occurs between them - the dancers - because they are so connected. So if you are very far away (speaking of the spectator) you're out of the action, but if you're close up, you're in a mimetic effect, in the mirroring effect.

Louise Boisclair continues here on the notion of the collective body (presented in Chapter 5, Sections 5.3.1 and 5.3.2), its complexity, the concept of larval, the inchoate (presented in Chapter 5, Section 5.3.1) and introduces the concept of perpetual transformation (and not that of representation) (presented in Chapter 1, Section 1.5.1 and Section 5.3.1) - Study # 2 and pre-Study # 3.

### **Video : Fichier 08-DVC C2 Observatory 01**

**Video 15:** 11 :15 – 12 :17 - Louise Boisclair - Phase # 2 and pre-Phase # 3

And what I could add is this, yes, the complexity of the collective body in movement was very present. Because you have the bodies of five dancers, normally you would look at them from a distance. Here, they are always in contact with one another and it creates a kind of body, a sort of unidentifiable mass. I thought the dimension of the larval was very present. I stipulate that the concept of the larval ensures that you always have the impression of something that is inchoate, becoming, going towards something, but failing to find a stable, final form. So for me, this phase of research has to do with the larval, with transformation. I also add that five bodies together, constitutes a lot more than five bodies being added, it creates another form.

To complete and conclude on this point, I present an excerpt by Louise Boisclair (2007, p.56) who continues the discussion about the complexity of the collective body (physical, sound and carnal) and about the inchoate or larval dimension of this

performative form. This excerpt complements her views<sup>260</sup> on the notion of *Trans(e)dance*, one of her expressions, that was inspired by the work of Study # 2 presented at Hexagram. This article is provided in the Appendix 8.2.1 in the original language, French.

*Trans* evokes the transdisciplinarity that is as essential to her corporal work as it is for her research. Energy is carried by the movement of bodies in contact and through the mediatisation of their breathing as an expanded sound body. *Trans(e)dance* refers as much to the secondary state achieved by members of the expanded body, a kind of trance experienced by each dancer, as to the two-way flow of internal and external stimuli.

This extended sound body composes a collective and connective form of images- sounds in movement in three dimensions. The elasticity of particles in contact and the electricity of waves circulating within a moving collective body, *Trans(e)dance* evokes the intersection of bodies with the sound-image of an augmented body and its deheirarchicized representations. *Trans(e)dance* is also the transdisciplinarity of Cubist painting, of an amplified sound body and the movement of the fundamental energy of the pelvis. It is the secondary state open to telluric and ethereal dimensions in harmony with nature and spirit. All representations of the body the spectator draws in while wandering around the stage, floating between image, presence and experience.

Watching this mass deploy, deform and inform itself, deploying its energy with a pendular speed sustaining the amplification of breath in sound, is an experiential event. This extended sound body becomes the matter of the work's body that we watch, receive, construct and interpret. The performance of the expanded sound body becomes a true *Trans(e)dance*, a dance which passes through the line of sound to the pace of expiration.

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Quotation have approval to be used

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### **Proximity, a modality for reformulating the perception of shapes and choreographic structure**

The collective body or mass of bodies of which I have been speaking, and which I worked with, comprises a particular way of reformulating the body's form. Spatial proximity between spectators and performers helped to de-compose the body's form, along with the flux of collective movement. I was thus looking for different modes of reception (for the audience) with this sensorial material.

During this phase of the work's creation, spectators were positioned extremely close to the dancers' bodies, at less than half a meter. Eight speakers comprising the system that spatialises sound were placed around the audience, defining the total

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<sup>260</sup> Presented in Section 5.3.1, Chapter 5.

performance space. Situated between the speakers and the performance arena/space of the dancers, the extreme proximity of the audience with these two spaces was intentional as part of the strategy of sensory and perceptual destabilisation I was experimenting with.

With this extreme closeness, I was seeking to provoke a hypnotic effect produced by a complex form that becomes sound: a mass of flesh that sings, talks, groans. The proximity of the dancers' naked bodies, like flesh in motion, causes a first loss of bearings, a deheirachisation, as spectators find themselves *in* the flesh, *in* the *carnal collective body*. This had an effect of deterring spectators' analytical capacities. They could no longer analyse and understand the body in a normal way (as when the body is seen alone or standing). This deheirachisation is firstly expressed by body parts which do not play their conventional role. The collective body was here inspired by deheirachisation in the representation of the body in the work of Hans Bellmer<sup>261</sup> as well as by Italian choreographer Maria Donata D'Urso's *Pezzo O (due)*. Spectators' comments revealed that they felt themselves in this body, arrested and 'hypnotised' by its complex entity. The dancers who were almost entirely nude, along with their proximity and intertwined action, also played an important role in establishing this destabilisation because in Quebec and France, proximity and nudity are generally considered disturbing and were also difficult for some of the dancers.

At the same time, spectators *hear* this mass of flesh. A second loss of bearings occurs as a result of immersion in a living sound form (that is moving and produced in real-time by the five dancers) and by proximity that strips them of their normal analytical references. The spectator finds himself/herself *in* the form; he/she is *in* hyper

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<sup>261</sup> I was only inspired by the aspect of the dehierarchisation of the work of Hans Bellmer and not by his other aspects such as his approach to sexual violence or perversion.



intimacy and simultaneously immersed in the sound emitted by this form that moves all around and penetrates his/her space. There are thus two forms (the flesh of five intermingled bodies and sound that is created in real-time) that spectators are not normally accustomed to; that blur codes and bearings and move around them. The sense of immersion and empathy, thus creating the dissolution of psycho-physical borders I desired, was produced for most of them.

### **5.3.3.2 The team, kinaesthetic and choreographic choices**

Before continuing, let me clarify that in my research process, the choice of dancers - which in Study # 3 took place in a studio in Paris where they were able to show their physical abilities (physical, musical and creative) as well as choreographic and kinaesthetic choices, were made taking into account the close and interdependent relationship of all the elements having to do with the production of sound in real-time - sound that is generated and linked to their movement. Also, the choice of the sound designer, the team of technicians and the technology to be developed, was also made taking into account this interdependence. I also must specify that the sound produced in real-time constitutes, in these experiments, the entire sound environment.

In writing this thesis, I describe these elements one after the other in the text, but in reality, they were constantly interacting with one another in a state of interdependence. I conducted the experiments as a form of integrative process that is described in Section 5.3 entitled "A methodology based on a phenomenology of lived experience". The principle of destabilisation underpinning the collective sound body also determined the choice of sound designer, dancers, technicians and technological development because not everyone is able to put themselves in a state of fusion with

others. Further, the project implied technology that would allow for this kind of interconnection, not forms of technology that create distancing.

### **The team and choice of dancers**

#### **Study #2**

Dancers: Isabelle Choinière, Marie-Josée Boulanger, Naomi Jason, Nancy Rivest, Soraida Caron

Sound designer and sound technician: Nelly-Eve Rajotte

Technician and sound engineer: Michel-Antoine Castonguay

Origins of the team: Montreal-Quebec-Canada

### **The choice of a team of designers and sound technicians**

Requirements for the choice of a sound designer were not clear at this time. I had not yet identified my specific needs. I did however choose sound technicians who were able to experiment with different devices for the production of sound in real-time, with different types of microphones (for the voice, piezo floor microphones installed on the floor). Significant financial constraints framed and determined my choices.

#### **Study #3**

Dancers: Kimiko Otaka (Japon/France), Charlotte Lafaure, Agnès Guy, Nancy Moreau, Aychele Szot (Brazil/Montréal)

Sound designer, composer and performer-technician: Dominique Besson (France)

Origins of the team: All the team members were from Paris with the exception of Aychele Szot who lives in Montreal.

### **The choice of the team of conceptors**

Requirements for the choice of a sound designer were much clearer by this time. I had partially identified my specific needs. I chose to work with Dominique Besson because she was a specialist in sound spatialisation. This was essential for achieving my idea of a sound body. Dominique Besson had also developed a tool, the *Ring*, which allowed for the spatialisation of sound sources in real-time: specifically, 'the direction of an open system for real-time spatialisation with functions for a gradual memorisation of signals and trajectories' (Besson 2009). Her work had been presented to me by Philippe Baudelot, former artistic director of the section Dance and Technology of *Monaco Dance Forum*.

The software for the *Ring* had nevertheless been developed on Director (a computer program used for interactive CD-Roms) and no existing model at the time was yet capable of processing the sound sources from the dancers' microphones in real-time. I was looking for a tool that was already available and demanding little investment in terms of technical development and therefore, financially. This choice was motivated by my desire to focus on the artistic relationship between technology and the body in movement rather than to invest all resources (time and money) on technological development.

### **Evolution and progression from Study #2 to Study #3**

Above all, the choice of working with Dominique Besson led me to test my idea of the sound body in a spatial dimension of time delay and partial real-time. It also allowed me to explore the type of vocal training that Besson gave the dancers, which will be discussed in the section on sound. Her sensitivity, as a woman and artist, led her

to embrace and experience a certain level of intercorporeality with the dancers and spectators and was very interesting for the development of my research<sup>262</sup>.

However, as the project evolved, it became clear that a structure in real-time based on a performative temporality, that is, determined by the performers' actions in real-time – their rhythm and sense of timing throughout the performance – was necessary. As their gestures were related to a structure of self-organisation, dependant on new sensory references created by the entire collective process (as in both physical and mediated), the unfolding and evolution of the choreography was thus based on/in the present moment and on the experiential element lived by the performers at every moment. This gave the dancers considerable latitude with respect to several aspects of the performance including the time they took to execute each type of action (sound, trajectory, body rhythm, movement). In the phase of development Besson was involved in, the structure in real-time could only be explored in the first section of the work for lack of time and means. Concretely, this meant that I had to assume the work of integration which involved working on the links between the performing body and the technology in a transversal manner, and, that although the concept of the sound body evolved somewhat during this stage of development, it would not be until a few years later in 2013, when I had the occasion to work with other sound designers, that the full scope of sound in real-time could be exploited. However, it is important to note that research conducted in 2013 was not part of this thesis and will not be analysed here.

### **Evidence – comments by Dominique Besson**

Here is composer Dominique Besson's account of her work of spatialisation and composition. It was developed through a common gestural awareness and link to the

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<sup>262</sup> The issue of intercorporeality was discussed in Chapter 1.

project at hand. She also introduces the phenomenological elements that led to the development of an intercorporeality between the dancers - the carnal collective body - and herself as composer-performer generating the spatialisation of the sound body<sup>263</sup>. Besson's account comes from an article she wrote in 2009<sup>264</sup>. This is how she explains the introduction of gesture in her approach to spatialisation:

Today it is possible to observe the material aspect of sound, to project it in physical space, to manipulate its components, in a word, to organize it. This new flexibility reintroduces gesture in compositional practice and allows for the birth of new forms, that are intelligible but not always predictable. Gestures made while producing a sound object, or when it is placed in physical space, are part of writing, of a score. Gesture produces, as Edgar Morin notes in 'Method' (2003), "a phenomenon of learning that puts knowledge in motion"<sup>265</sup> and through which an inner consciousness of movement is connected to the generation of sound.

Composers (also) dance in their own way in sound space. As Chuang Tzu (2002) remarks, "Do not listen through your mind, but through your breath"<sup>266</sup>. It is precisely through these notions of *time* and *breath* that I wish to share my experience as a composer. Isabelle Choiniere's process, that consists of addressing movement as a vector of introspection, a way of accessing a secondary state in which gesture frees itself from habitual codes that are established, then self-organized according to what is revealed, of what it loosens inside of the supra sensitive, finds deep resonance within my musical practice.

To enable this experience, she wanted to use new technologies of sound spatialisation in her choreography to mediate outwards, that is to say externalise, something that is intimate: the sound body. For dancers, managing breathing allows them to control choreographic figures, to find the rhythm of oxygenization necessary to complete movements. The same process of muscular identification with objects to be represented occurs for the performing musician for whom breathing affects the quality of instrumental gesture. With respect to the sound object, this sharing allows one to witness the birth of unusual forms, constantly renewed, but circumstantial.

From a musical or sound point of view, this mode of production is very specific, as it introduces the unexpected into a set of criteria that constitute the sound object such as its starting time, duration, end time, dynamic profile, timbre, register, attack and grain. These criteria are the guarantors of its formal identity. Introducing randomness in the attacks, duration and registers of the constituent sounds of sound body, while leaving dancers to explore their feelings according to predetermined registers, leads to the concept of the open form. For example, in *Morph*, one section of the choreography, sound objects developed specifically for the voice, are sounds produced by short inspirations or expirations. The collective body must explore an opening of the diaphragm, the larynx, the oral cavity, and build relationships between the movements and sounds produced: opening and register, velocity and dynamics, looking for patterns, reference points. In this way, a polymorphical and changing sound object is obtained that has a certain elasticity and which is self-regulating like the body. Its projection in physical space, its bursting to the surface within the circle of eight speakers then acts on the dancers' proprioception implying awareness of what is being woven together.

The sound objects emitted by the dancers, although they differ in their typology (continuous, iterative, smooth, grainy, melodic...), are similar in their spatial image, as they are all captured at equal distance from their source of emission (the distance between the dancer's mouth and the

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<sup>263</sup> This notion of intercorporeality is discussed in numerous places throughout Chapter 1, amongst which Section 2.9.

<sup>264</sup> This article is provided in Appendix 8.2.3 in the original language, French.

<sup>265</sup> Morin, Edgar (2003) *La méthode, L'identité humaine*, Paris: Édition Le seuil, Collection Points.

<sup>266</sup> Tchouang-tseu (2002) *Le Rêve du papillon*, traduction de Jean-Jacques Lafitte, Paris: Édition Albin Michel.

microphone placed on the top of her forehead). They all convey actually the same image of space. The spatialization of these sounds, which consists of managing the spatio-temporal behavior of sound sources in physical space, allows for the introduction of concepts of relief, distance and trajectory, in order to make the passage of time perceptible by movement itself, and to introduce a dramaturgy of movement.

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Quotation have approval to be used

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Here, she describes our meeting and how she saw her tool serving my concept.

This text resonates with points made in Chapter 2, Section 2.7.1, which deal with the need to create new tools for performative works involving technology:

When I met her, Isabelle Choiniere had already conducted a first experience with sound synesthesia by equipping her dancers with microphones to study the quality of sound of their breathing and she was looking to give substance to this breathing through pluriphonic projection devices. Very soon, we began to collaborate as we found ourselves in phase with one another in our approach and my tool of spatial composition could constitute the necessary mediation device for the implementation of the experiment.

With my system, sound production currently operates by controlling the amplitude and phase of contributions coming from each source in each of the speakers, which can be considered like microphones in virtual space and sources in real space. This model of spatialisation, for the moment, only takes into account the direct waves between each source and each speaker. The graphical interface of composition is mainly spatial (and not temporal as in editing tools). The system allows for the animation of a certain number of mono or stereo sources, according to paths that can be programmed (to and fro, circular ... ) or drawn freely by hand on a map of virtual space. Temporal sequencing is structured in scenes (presets) composed of sound objects, programmable in their temporal and spatial iteration. What drives the sequencing is the notion of autonomous objects, with programmed temporal behavior (with digital parameters of duration, which may involve degrees of randomness). Interfaced as real-time entries in the *Ring*, the five sound sources generated by the dancers thus become controllable in space and time.

The stage device which surrounds the listener here introduces a unique listening situation where he or she cannot locate all the sources present visually. The listener finds him/herself surrounded, immersed in the heart of the sound body and the movement that is deployed introduces a surplus of "*sensitive materiality*" ...

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The question of the sound body is addressed in Chapter 2, Sections 2.4. and 2.8.4. The question of real-time is analysed in Section 2.8.4 and that of space as a component of the collective sound body in Section 5.3.3.1. Here, Dominique Besson explains how the collective body is in a symbiotic relationship of intercorporeality with the dancers and their actions. Through this relationship, the composer works in real-time with sounds generated by the dancers, who then respond to Besson's interpretation. What follows is an excerpt from her article.

### **The collective body interacts with the sound score**

#### ***Morph* - Homothetic projection**

The dancers direct the composer-performer's gesture whose job it is, during performance, to mediate the sounds of the collective body according to its movement and displacements in order to create, in whole or in part, the sound body. The composer operates a homothetic translation, of projecting the position and movement of sound sources generated by the dancers into the space defined by the ring of eight speakers positioned around the audience, controlling the output levels of sound on each of the eight speakers. A kind of animated moving form is produced, endowed with a life of its own, self-organizing in an organic sense: a sound body.

From the composer's point of view, the specificity of this mode of interaction lies in the fact of having to simultaneously track the evolution of five points of the collective body (in reality five distinct spatiotemporal behaviors) whereas, naturally, one can only isolate one at a time.

In this situation, one has to learn to read movement by going around the limits of perceiving simultaneous events, orienting oneself within the space of the choreographic figure in order to make it legible in turn, all the while sculpting it in acoustic space, giving it a projection, enlarging it...

Mediation thus occurs through and by the composer-performer. This task could have been assigned to a system which would operate through motion sensors, but it was deliberately not the case here, because what interested us was to explore a new relationship between the individual and the collective and to what is individual. The collective body is very sensitive, very responsive, to its sound body. It is a bit as if it lived there, continued there, discovering its scope, its infinity. There is something that suggests flux, the flow of sap that rises, spreads or encounters obstacles. One must be able to decompose each choreographic figure, to become familiar with every movement, every gesture, thinking, visualizing them, living them from the inside to be able to identify muscularly with the sought object to optimize its movement in performance. The composer here becomes the performer of the collective body.

The relationship established with the dancers is intimate, almost emotional. This responsibility connects us with a form of kinaesthetic feeling of movement by the five members of the collective body and guides the movement of spatial composition. The peculiarity of this form of writing is that it involves time that is shared, that is dictated by the body and that things never happen again in an identical way. In the course of each performance, the unpredictability of movement requires us to live the experience of gesture, of the collective body and this experience replenishes our imagination through opening new horizons.

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Quotation have approval to be used

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### **The mediated collective body: definition and principle of construction of the sound body<sup>267</sup> as part of the collective body**

This section outlines the second concept of the body I propose: the sound body which was just introduced in the texts of Louise Boisclair and Dominique Besson. The sound body is one of my personal strategies of destabilisation and does not reflect a more general approach to sound evidenced in field of contemporary performing arts today. When speaking of a sound body, I firstly refer to a dimension of the body that is generated in real-time by dancers that corresponds to an enlarged choreographic

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<sup>267</sup> Written in part in collaboration with Enrico Pitozzi in an interview made by mail (2009a, 2009b).

concept<sup>268</sup> and a state of openness characterising corporeality, again referencing Merleau-Ponty's theories on this subject. It is a concept that I have been developing in my more recent projects.

To put this idea into play, dancers had to develop an expanded consciousness of themselves as much with their movement as in the production of sound in real-time and further, in the relationship these two entities closely interweave. This expanded sense of self is possible thanks to the dissolution of the psychocorporeal boundaries referred to in Chapter 2.

The sound body I developed is an emanation, a dilation of the physical body, and constituting a vibration serving as a sensorial reference for the dancers with which to compose. I insist on the fact that the sound body is not a double, but a new manifestation of the physical body issuing from a kinaesthetic learning process brought about under the influence of technology as an element of exteroceptive destabilisation. This 'transformation' of the very nature of the body requires a time of apprenticeship and assimilation. It is the product of a real integration of the process of modification that can lead to a transformation of self.

What is interesting about this perspective is that while working on the sound body, I could also intervene on the dancers' sensoriality and perception. On one hand, this led me to abandon modalities of composition that have already been tried and tested; on the other, it enabled a deeper construction of movement in a constant state of transformation. With this perspective, sensoriality reorganises itself, interiority changes

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<sup>268</sup> See references to Oriental philosophies that inspired me.



and evolves. Interiority becomes mediated and thus transformed through the destabilisation created by an external technological agency.

This form of mediatised interiority that reorganises itself echoes Berthoz's (1997) theories on the de-composition and re-combination of the senses just evoked. It also creates a 'new reality' for the performer (and the spectator). This modification of interiority through its mediatisation allows for a renewal of the perception of gesture and of the body moving in space. It is one of the elements that enables one to go beyond the sclerosis that characterises much choreography (Bernard 2001; Quinz & Menicacci 2005, 2006; Pitozzi 2010a, 2010b) and constitutes, in my opinion, one of the most important aspects of research on technologies: the renewal of perceptual organisation in order to create new movement scores.

But that is not all. This same dynamic brings changes, and thus the creation of different types of performative behaviour, such as modifications of performative stage projection that I tested according to principles of diffraction and molecularisation I have developed. My research shows that technologies should renew the experience of corporeality. So, by working on the dimension of the sound body, one intervenes on a process of sensorial renewal that must be accompanied by working on movement and on the process of performative projection. Further, this type of sensorial renewal can only be achieved through constant practice over a period of time.

In addition, working on the collective body and the sound body, the effects of destabilisation are combined, which has the effect of accentuating them. Performative forms that emerged were complex and unpredictable because they arose from interaction itself: from the five bodies exploring variations in pressure and pulse and from the creation of sound in real-time that acts on the rhythmic dimension of the

performance and the choreographic structure and gesture which compose it. Subjected to this unusual creative tension of a gravitational and rhythmic nature, performers develop new adaptive methods. For example, Suquet (2006) notes that contact improvisation places dancers in a situation of being 'thrown into spatial configurations where verticality is no longer dependent on movement. In these situations of rapid disorientation, a blackout of vigilant consciousness occurs, and reflexes take over' (2006, p.425). This is a strategy where a loss of bearings is produced.

Inspired by concepts underpinning Paxton's contact improvisation and his tactile body, exteroceptors also played an important role in the elaboration of strategies applied to the physical and mediated collective body. Exteroceptors are neuronal structures in the skin (*récepteurs cutanés*) (see Fig. 20) or mucous membranes. Their role is to capture stimuli from the external environment. They are stimulated and in turn cause changes in physicality. It should be recalled that in my research, technology is conceived as an environment that is in constant flux. Berthoz explains that the skin 'contains numerous receptors sensitive to different aspects of contact with the outside world' (Berthoz 1997). While certain receivers are only sensitive to caresses, others detect signs of pressure, intensity (light, sound, *et caetera*) and heat. They can also be sensitive to the manifestation of a mediated body in the form of sound (sensed as vibration, or eventually as particles of light). This topic is broached in accounts by Enrico Pitozzi to follow<sup>269</sup>.

Pitozzi (2010b) was notably able to observe, during the last phase of the work, the process of integrative organisation between these different bodies — flesh and sound — and the effect of sound on the body of the performer:

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<sup>269</sup> This article is provided in Appendix 8.2.6 in the original language, English.

[...] around the capturing of the sound of five different dancers that – composing their movement in the space of action like a real sound mass – produced what we could define a collective resounding body, inside which the dancers could feel a shared sensorial experience, on the level of movement and on the level of sound production in real time. The elaboration of a soundscape responds to the mass-movement of the performer on stage, of an intense graininess that seems like a cloud of sound, a dense and articulated atmosphere of sound particles. [...] The 'resounding body' is, in other words, an emanation, a dilation of the real body into the shape of sound; it is a vibration. The body becomes an eardrum, a resonator of sensorial dimensions that becomes scenic sonority. Therefore the body is almost molecularised, subdivided into elementary particles and recomposed in the shape of sound. Once again we are outside a purely logical formality of gazing at the body: the intensities – its articulation in movement – particules – are at the same time part of the choreographic and research work on sound thanks to the alteration and modification of different frequencies (original translation).

The strategies of destabilisation that I experimented with through the simultaneous composition of a collective physical body and collective sound body, led to conscious and unconscious levels of organisation that determined not only the emergence of other types of movement, but also of other types of performative behaviour. I developed 'strategies of coexistence' outlined in Sections 1.8.2 on empathy and also referred to Merleau-Ponty's theories concerning different modalities of sensory reception in the final stages of my practical research. I present here other observations by Pitozzi (2010b), on the effects he was able to observe during the final phase of research being studied in this thesis.

Pitozzi defends the idea of 'tactile vision' which also synthesises my conclusions on the tactile aspect of the physiological learning process involved in my research. During the last phase of the work, the audience was situated a half metre away from the carnal collective body. According to Pitozzi, this proximity induced, in the body of the spectator, a 'tactile vision' for the spectator. The spectator is immersed in a living form, he/she is *in* the form - *in* the collective body - and in contact with the intensities that animate and underpin it. The spectator is also in this flesh because of sound sensed as vibratory particles that move around him/her, that traverse his/her body and space, with a destabilising effect. According to Pitozzi, combining the effect of the collective physical body and the collective sound body creates a form of audio-tactile perceptual

reception for spectators. This effect corroborates Merleau-Ponty's intersensory chiasm and Berthoz's (1997) theories on the skin's receptors or those of Suquet and Berthoz on the complementarity of vision with touch:

We can speak therefore of a tactile aspect of the working of sound. The sound elaborated according to the strategy of molecularisation<sup>270</sup> and spatial disposition operates with very high and very low frequencies and tends to articulate itself through a continuous wavelength that installs a constant relationship with the bodies that are listening. This proximity between the body of the performer (visibly and auditorily) does not however take the audience into a situation of extreme sound: the communication passes because of the different chromatic levels of sound, different levels of vibration. The spectator is therefore immersed in the continuous vibration, of a segment of sound as a gesture, and it is on this scale of variations that the attention must fall. What is being affirmed is that the parameters that the spectator must put into action are not simply optical-visual or auditory-sound, but the process of composition of the choreographer Isabelle Choinière requires a synaesthetic glance and mode of listening, an active and contemporary relationship of the senses. It's necessary to configure the bodies in another way in order to receive these signals. It isn't enough to have eyes to see the invisible or to have ears to hear the inaudible (Pitozzi 2010b, original translation).

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Quotation have approval to be used

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In observing the influence between performer and spectator, Pitozzi accounts for the synaesthetic effect produced which resembles the effect of Merleau-Ponty's second intersensory chiasm and that also reflects the third parasensorial chiasm and the phenomenon of intersubjectivity of which Merleau-Ponty speaks. According to Fraleigh, '[d]ance is not completed as art until it enters an intersubjective field' (1987, p.23). She further notes, 'The dance begins and ends in lived time and immediate perception' (1987, p.48). Let us now look at the concept of empathy, which is partly responsible for this influence as a strategy of communication, and also characterises the collective physical and sound bodies.

## **Study #2**

### **The choice of dancers**

The choice of dancers became clearer for Study #2 as I had noted the limitations of the former group of dancers with respect to being involved in such a process of research. I chose dancers with:

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<sup>270</sup> When Pitozzi (2010b) speaks of molecularisation, he refers to the sound body I have created, therefore of the carnal body that is molecularised and recomposed as vibratory particules of an auditive nature.

- a good ability to execute floorwork (traditional workouts - ballet and contemporary - mostly using the vertical axis of the body in movement);
- training in the technique of contact improvisation;
- ease in dancing naked (with only a g-string);
- an interest in investing in research involving technology.

### **Study #3**

#### **The choice of dancers**

The choice of dancers became still clearer following Study #2. I began to think about incorporating more of the somatic techniques I had learned as well as the kinaesthetic and proprioceptive tools that I had developed during my training and career. I was looking for dancers who had developed what I had acquired. I also realised there were more prerequisites for this work. I chose dancers who:

- had a good ability to execute floorwork as well as those who learned the contact improvisation technique;
- who were willing to dance naked (with only a G-string);
- and who had an interest in investing in research involving technology.

But I also added the following conditions:

- the capacity to work in extreme physical proximity;
- the capacity to invest in a research process that required reflection and a conceptual form of participation of the dancer;
- a desire to invest in research involving gestural and performative codes other than those which are transmitted and learned in current training (schools);
- training in somatic practices (alternative forms of training);
- training in introspective techniques;

- experience with vocal techniques or with the production of sound in real-time (with or without technology);
- creative abilities developed within a connective and integrative context (ie. in all subject areas).

The audition took into account all these registers and an interview finalised my choices. As a prerequisite for the audition, I asked all candidates to look at a videoclip on Internet of the first section of the choreography.

### **Evolution and progression from Study #2 to Study #3**

The dancers in France were able to become involved on a conceptual level and this gave me the tools to invest in more performative forms such as in the first section, as these dancers lent themselves to these experiments. The french dancers all had the necessary references to anchor themselves in such work (Deleuze, Bacon, references to the nude in the history of art and other references). This was important for my approach and of great value. It also highlights a key characteristic of strong dancers. The dancer becomes part of the research team. I work with this capacity to develop a conceptual level with dancers. As a result, a dancer can invest his/her body in an evolutionary process following my instructions and also be able to understand and to think about changes occurring in their bodies.

I was also able to push vocal work in real-time further in relation to the creation of gesture with this group of dancers because they all had had a certain level of experience in vocal techniques and interdisciplinary work.

This said, the problem I encountered with the dancers hired in Paris was that they had little training in contact improvisation. According to European sources, this

technique is mainly taught in North America and Italy. It limited their ability to manage gravity displacement (weight) in relation to other dancers, so it thus limited exploration in the first section. Also, these dancers had a difficult relationship with proximity and intercorporeality. These two problems blocked the development of the second part of the performative study (the working title of this section was *Legs*), even if this section was to evolve owing to the time that we had to devote to it and due to a better understanding of the principles of deheirarchisation and self-organisation. An evolution of the second section between Studies # 2 and # 3 occurred, but it was not major compared to that of the first section.

### **Evidence – comments by the dancers**

Here is dancer Agnès Guy's account of the process, where she makes reference to personal readings and research before engaging in the project:

#### **Video : File Sans titre6-2.mov : Agnès Guy interview**

**Video 16:** 04 :44 – 05 :08 – Agnès Guy

Before starting this work, I had discovered Deleuze's *Logic of Sensation* in relation to Bacon. And therefore on Bacon, there is the whole idea of the body's dehierarchisation and mass of flesh. So in his paintings, one really finds what you can feel in this creation, truly...

**Video 17:** 06 :07 – 07 :17 – Agnès Guy

Also, at the very beginning when we start, we really feel like, and it's not pretentious to say, a work of art. It feels like being a sculpture, something in three dimensions, but this impression of being in 3D, it also comes from below because we are part of the floor. Regarding the fact that the public is seated all around the performance space, you live, as a performer, a three-dimensional projection of the collective body. And there is also the *Ring* - the spatialisation system - which on the level of the music is all around us, so we really project in 3D. This performative situation is very different to any other work that I or the other dancers have experienced before, where things don't happen like that - laterally - and where attention is only given in one direction. You know that it is only in that direction you present yourself. Here, you live a kind of emergence of the body, it goes in all directions from the bottom upwards, also because it really comes from the floor. You belong to the floor in this work. And there is also the *Ring*, which echoes our sounds, our breaths, other sounds that go through there, which return there, and it is always in 3D.

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Quotation have approval to be used

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## **Study #2**

### **My involvement**

Having past experience as a soloist, I have personally experienced sensory-perceptual changes in my body. I thus see myself as an important source of information for other dancers. Personal experimentation with these new situations of sensory and perceptual destabilisation allowed me to build new references that I could quickly share with the four other dancers who did not have my experience with somatic practices and contact improvisation and of conditions where the moving body is in constant contact with a technological environment. I had the capacity to quickly adapt to and identify these changes given the experience I had gained since 1994. I thus made the choice to be part of the group of five dancers.

There was nevertheless a problem involved with this choice. In the past, as a soloist or as part of a telematic duo, it was mainly I who directed the creation from the outstart and from the point of view of the experience of the moving body immersed in technology: from inside the stage device. It constitutes an experiential point of view and is thus connected to a phenomenological perspective. I did not often position myself from outside. An outside point of view (in the form of video recordings) was adopted for the overall composition, but in fact, it was not very efficient. I have always considered this information as inadequate because video recordings lack the phenomenological and physiological information one can live with sensory-perceptual destabilisation related to technology when it is approached as an environment. So this information was used sparingly and only as a minor complement to experiential and physiological information.



In this phase of creation, given that the choreographic approach dealt with five dancers considered as a three-dimensional sculpture and the approach to space with sound was being processed as a 'sixth dancer', directing from an inside point of view was no longer possible: I also had to direct from the outside. Additionally, with choreographic space including the collective physical body and mediated body in real-time and also the rapport with the audience with spectators situated around the performance space and not in a frontal rapport, the complexity of the composition was too great.

Further, as I wanted to expand my relationship with technology in the new synaesthetic way I was experimenting with, I had to position myself outside the work in order to understand the link between the dancers' production of sound in real-time and the performative composition. In other words, I had to learn how to use the information lived and felt from the inside as a main reference, while remaining outside the group of dancers and on the edge of the stage installation. This became a way of reinvesting in the phenomenological experience otherwise and of finding in what I was perceiving and feeling from outside, the interior space of resonance.

As I had to position myself mainly on the outside, I composed this phase of the project with only four dancers because I often had to remove myself from the group. This created another problem when I had to reintegrate the performative structure as the fifth dancer.... I only understood this dynamic at the end of the residency. It was extremely problematic and slowed down the work process somewhat.

### **Study #3**

#### **My involvement**

I was aware of the importance of personally living the sensory-perceptual changes that come with strategies of destabilisation. So I chose one of the dancers (Charlotte Lafaure), telling her I would replace her from time to time. This choice was interesting, but the lack of resources (rehearsal time and money) was a problem. Another problem I encountered was that when I reintegrated in the carnal collective body, no one could play my role as director and thus direct me as well. I lacked an outside eye, someone with the same perceptual capacities to direct me in these explorations. So I sometimes stepped in for the dancer, but was forced, for the most part, to direct from the outside. Even if I became involved in the process of kinaesthetic and proprioceptive change, I had to work by memory and past experience. This solution was useful although it was not sufficient to glean all the necessary information.

#### **Evolution and progression from Study #2 to Study #3**

Having five dancers, and also a replacement in Study # 3 advanced my understanding of the research regarding its needs on both experiential and conceptual levels. The need to compensate for not being able to experiment things with my own body on a regular basis was resolved by having regular conversations or interviews with the dancers. This process began to be implemented in Study # 3 during the residency in Grenoble when we all lived together in a flat. We thus had the time and opportunity to discuss, often in the evening when dining. These discussions were spontaneous and were not planned, but they were very interesting and guided me in parts of my research. Being spontaneous, these conversations were not documented. Only a few interviews were conducted at the end of the residency and are integrated as evidence in this thesis.

## **Kinaesthetic and choreographic choices**

The choreographic sections that were worked on and developed in Studies # 2 and # 3 constitute the first section (working title *Morph*) and one of the last sections (working title *Legs*) which I call the second section. The other sections will not be discussed as they were not worked on in these phases of research.

### **Study #2**

#### **Introduction**

I began with material from Study # 1 to work on Study # 2. It served as my choreographic base. I will not discuss Study # 1 in this thesis. However, I want to emphasise the fact that Study # 1 was developed around the theme of eroticism. A report on this topic was made in April 2007 and included in Section 3.5 of RDC2. It is presented here in Appendix 8.4.2. The theme of eroticism was completely abandoned in Studies # 2 and # 3 in favour of an approach highlighting the self-organisation of the moving body, deheirarchisation and strategies of sensory and perceptual destabilisation. Exploration of three-dimensionality explored during Study # 1, helped me to develop research on performative spatial organisation, as much for the physical collective body as for the mediated body.

#### **[First section](#)**

#### **Video: File Meat Paradoxe-Phase 2 Enghien – Nov. 2007**

#### **Video 18: First section 0:00 – 2:40 / beginning of the transition 2:41 - 3:39**

*This first section is key to the entire research.*

## Overview



Figure 66: Study #1 (2005) Isabelle Choinière

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Figure 66 have approval to be used

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I began with the spatial arrangement of the first section of Study # 1 where the performers were arranged in a circle, with their heads lying on the abdomens of other dancers to form a circle with an open space in the centre. This section was still underdeveloped in this phase, but it marked a radical change of direction in my research. This change came about following a meeting with two artistic advisors, Armando Menicacci and Emanuele Quinz, who came to a rehearsal of Study #2 near the end of the residency at Enghien-les-Bains in November 2006. Following a discussion where I outlined the goals of the research, they introduced me to the principle of self-organisation of the moving body based on the theories of Laban and Bernard. If these elements were already present in my practice in an intuitive way through somatic techniques I had learned, especially through Bartenieff Fundamentals, the fact remains that this meeting made me aware of this principle and as a result, I was better able to integrate it in the project from that point on. Pertinent elements of Laban's and Bernard's theories as well as the somatic aspects involved in the project were presented in Chapter 1, Sections 1.3, 1.8.3, 1.8.4, 2.5, 5.3.1. These elements were in line with the development of the collective body and with interconnected principles in the performative structure (see Appendix 8.4.1 for previous research concerning somatic practices).

### **Description**

The five dancers' bodies are seen lying on the ground. They are interlocked. Two groups of two dancers are arranged close to one another. These groups are touching. A quartet is formed and another dancer stays at a distance but is in contact with the quartet with her legs and arms. This dancer is the first to move. She initiates movement. Movement is very slow. This slowness is intentional.

### **Movement principles / the principle of physical space**

I then changed the spatial arrangement of the dancers to place them in more contact with one another. Four of the dancers were, for the most part, one on top of the other. Arms, hands, pelvis and legs were mostly used. The displacement of the weight of one person entailed a partial or total displacement of the other. The rule was to not let space form between the body parts in contact (for example, the arm of one person in contact with the legs of another, *et caetera*).

Another important rule concerned the management of hand contact with different surfaces: the hand was never to leave the surface of contact, so it had to move from one surface of contact to another (such as a body part of the dancer, the bodies of others, or the floor). An exploration of different types of touch was made (full-hand touch like a massage, barely touching surfaces, touching the floor, the floor being approached as another person, another skin surface, *et caetera*). A hand could lead the rest of the arm, causing the shoulder to move and thus initiating movement, *et caetera*. In this section, the legs and arms were the main body parts moving and, in this early exploration, involved gesture interconnected with others.

The structure of movement was based on a principle of self-organisation (with the dancer therefore never completely knowing or being able to predict the path of movement, because it was always in relation to the movement of others). However, at the time, this principle had just been discovered. It was explored through directed improvisations and was only applied at the beginning of the section. But already, looking at this section, the impression was given of bodies that were flowing like lava one through the other.

Another rule was to hide one's head as much as possible in order to eclipse the dancers' identity. Their heads were already covered with black turbans to support and hide the wireless transmitters. This choice was a good one because it allowed for their heads to remain hidden as they melted into the black stage environment. This strategy brought attention to the performative body and not to the individual dancers. I was trying to create a mass in which one could not distinguish who was who.

A principle of dehierarchisation also began to be explored. As in the work of Hans Bellmer or Maria Donata D'Urso, this meant that moving parts of the body became confused and did not play their conventional roles (refer to pictures in Section 5.2). For example, movement in space was directed by the elbow, or by the knee, or by the head. In this study, hands were used extensively to initiate and lead movement. This had the effect of initiating movement differently and demanded of the dancers a greater level of bodily awareness, as gestural chains and references began to change.

## **Study #2**

### **Specific techniques used for the development of this section**

No specific technique other than those already mentioned (contact improvisation, *et caetera*) were used. These principles were developed in the last two days of the residency and were still in an experimental form. Principles of contact improvisation are presented in Chapter 5, Section 5.3.1.

### **Study #3**

**Video: File sans titre3-son 1.mov**

**Video 19: First section 0:42 –/ beginning of the transition 7:47 - 8:08**

**Video : File sans titre6-son 3.mov**

**Video 20: First section 0:37 –/ beginning of the transition 7:52 - 8:10**

### **Description**

The five dancers' bodies are seen lying on the ground. They are interlocked. The five bodies are nested as tightly as possible one in the other. They constitute a single group of bodies. Movement is very slow. This slowness is intentional. Slowness as a strategy of sensory-perceptual destabilisation is developed at the end of this section.

### **Principles of movement / Principle of physical space**

I again changed the spatial arrangement of the dancers to put them in more contact with one another and in a situation of absolutely having to move one with respect to the others. A specific somatic technique was used for this that is described in the following sub-section. The five dancers were, for the most part, one on top of another. In addition to arms, hands, pelvises and legs, torsos were exploited. The breathing of one person initiated the movement of another, but more importantly, it provoked bodily communication with the other bodies and therefore intercorporeality,

again referencing the theories of Merleau-Ponty. The displacement of weight of one person produced a partial or total displacement of the others. The rule was to avoid creating space between the body parts in contact (for example: a torso in contact with the torso or arms of another, *et caetera*), but this rule was enforced much more later on in this study than in Study # 2. The entire body was involved rather than the arms and legs alone.

The rule concerning hand contact with different surfaces was maintained, but was taken further, because we were able to spend more time on it. Exploration of different types of touch was ongoing (full-hand touch like a massage, lightly touching surfaces, touching the floor, the floor approached as another person, another skin surface, *et caetera*), but it was also taken further as we had more time to work on it. The hand could lead the rest of the arm, causing the shoulder to move, involving movement of the elbow in space, and thus initiating movement, *et caetera*. In this phase of exploration, the torso, legs and arms moved, involving gesture that was even more interconnected with others. Gesture was worked in such a way that it was dependent on and in interaction with the gesture of the other dancers as much as possible.

The structure of movement was still based on a principle of self-organisation, but in this study, was carried further. We worked with greater awareness of the body from within, through sensation, and explored the principle of sensory autonomy described at the beginning of this chapter. This fine-tuned awareness then guided the gestural exploration that also depended on the interrelationship of weight distribution amongst five bodies. It was further linked to their 'collective' body spasms and to the interconnection of movement between one body part and others. Much time was spent in rehearsal on this process. I directed the structuring of weight displacement through



sensory improvisations and principles of self-organisation. However, as these dancers all had had basic training in contact improvisation, we were further able to explore the principle of gravitational movement with the whole body and also, with variations in space. Their relationship to the floor and to the bodies of other dancers – as a surface of stable contact or when moving – was researched and took, as one of its bases, an exercise from Bartenieff Fundamentals I had learned. It was applied here through verbal instructions to direct the dancers in their awareness of this support and its implications for investing in movement.

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Figure 67 has been removed due to Copyright restrictions.

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Figure 67: *Sagittal Pelvic Shift*, in Hackney, Peggy (1998) *Making Connections*

The rule concerning hiding the head was maintained and now constituted the basis for one of the expressions of performative gesture.

The principle of dehierarchisation continued to be explored, but was developed much further as we could spend more time in rehearsal on it. For example, movement of the breath directed down the back could produce movement in the shoulder blades and then in the shoulder. Alternatively, the shoulder might lead to the elbow shifting in space and then lead to a hand movement. Or else the movement of the knee in space could push the hand, or cause the torso of another dancer to move. Or further, the elbow

could push a part of another body by infiltrating one of the hollow spaces of the collective body, provoking a chain of movement in different parts of the collective body. By the same token, we found that the principle of dehierarchisation led to another strategy of rhythmic change. The shifts and physical intertwinings I have just mentioned led to a principle of constant gestural and bodily recomposition.

### **Study #3**

#### **Specific techniques used for the development of this section**

A technique from somatic practices was also used in the first steps of training the dancers. This exercise formed the basis of the technique of bodily communication I was working with. It was what led me to invest in intercorporeality, parallel to my research on Merleau-Ponty. It consists of a principle of sending the movement of one's breath into a part of the body other than the chest or abdomen, such as the neck, the tailbone, the shoulder, the top of the back. This creates the sensation of 'breathing' into another part of the body, of investing another part of the body through breath. Movement linked to breath and responding to the breath of other dancers was what facilitated bodily communication amongst them. It was also the means of building sensation as a basis for collective movement, thus the basic method of the collective body. It was also this technique that enabled the dissolution of surface leading to psycho-intercorporeality that I was experimenting with<sup>271</sup>.

Two videos document this technique:

**Step 1** – Sending the movement of one's breath into a part of the body

**Video: File Ex.Somatique 1.0**

**Video 21:** 00:49 – 1:20 – Dancers

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<sup>271</sup> The notion of a 'dissolution of the psychocorporal surface' is discussed in Sections 2.8.2., 5.3. and 5.3.1.

Video 22: 2:50 – 3:01 – Dancers

Video 23: 3:15 – 3:36 – Dancers

Video 24: 4:14 – 4:28 – Dancers

Video 25: 4:35 – 5:27 – Dancers

**Video: File Ex.Somatique 1.1**

Video 26: 00:27 – 1:04 – Dancers

Video 27: 2:30 – 2:47 – Dancers

Video 28: 3:24 – 3:35 – Dancers

Video 29: 5:46 – 6:03 – Dancers

Step 2 – Responding to the breath of other dancers enabled bodily communication amongst them.

**Video: File Ex.Somatique 1.2**

Video 30: 00:10 – 00:48 – Dancers

Video 31: 01:03 – 01:35 – Dancers

Video 32: 02:04 – 02:38 – Dancers

Video 33: 02:53 – 03:32 – Dancers

Video 34: 03:38 – 04:43 – Dancers

Video 35: 05:59 – 06:23 – Dancers

Application in the collective carnal body as a principle of corporal communication

**Video: File sans titre 3-1-son 2.mov**

Video 36: First section (breath and the principle of dehierarchisation) 1:50 – 5:20

**Video: File sans titre 5-1-son 3.mov**

Video 37: First section (breath and the principle of dehierarchisation) 2:21 – 5:15

**Evolution and progression from Study #2 to Study #3**

Gravitational displacement was one of the major advances in this phase of the project.

An example of gravitational displacement by three dancers in three-dimensional space.

**Video: File Sans titre 6-son 3.mov**

**Video 38:** First section 4:54 – 6:16

In Study # 3, apart from the requirement of dancers having to master the technique of contact improvisation (although this problem was also experienced by dancers in Study # 2, but to lesser degree), a problem of concentration also arose. In the technique that I developed, focused concentration on bodily changes (one has to reach a state of 'emptiness' close to the state of mediation), thus on changes of sensation and bodily perception was necessary. In Study # 3, dancers had a better capacity to concentrate than in Study # 2 in which the dancers' concentration and level of proprioceptive and kinaesthetic appropriation were more limited. As I became more aware of the importance of mastering a technique of introspection during Study # 3, I realised that my demands on this point would only increase.

### **Evidence - comments by the dancers**

In support of this experimentation, here is Agnès Guy's<sup>272</sup> account in which she speaks of her phenomenological experience of the collective body from a physical point of view. The principle of risk-taking I developed is presented in Sections 1.5.1., 2.8 and 4.3. It is linked to the notion of emptiness and the dissolution of psycho-corporal borders, two states that were necessary for achieving intercorporeality. My strategy of connectivity (following the concept of the interval) as an activator of intercorporeality is presented in Chapter 2, Sections 2.8 and 2.9. I would also like to clarify that if I have mainly included Agnès Guy's accounts, it is because they are clear and articulate.

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<sup>272</sup> Dancer in Study # 3.

Difficulty in verbalising sensory and perceptual changes is a common problem for dancers. It was a real obstacle that I encountered:

**Video: File Sans titre6-2.mov: interview with Agnès Guy**

**Video 39:** 01:25 – 02:06 – Agnès Guy

In fact, I especially want to speak about bodies such as we experienced them, as a pile of flesh. There is a moment when there is really a unique body that appears. There is all this mass, all these folds and all this skin and all this flesh. Which is pretty impressive at the beginning of the choreography, in this mass and in this pile of flesh to which I belong, which is what we become, where we actually become a real collective body. We no longer think of everything in relation to individual members, in relation to a hierarchy that can exist in our body or in everyday life. We are really a heap like this, breathing together.

**Video 40:** 02 :10 – 02 :17 – Agnès Guy

In addition, the *Ring* - the software used for spatialisation - allows us to feel every breath we emit. And so the breath of others becomes our own breath.

**Video 41:** 02 :59 – 03 :59 – Agnès Guy

So what I'm saying is that there really is an impression that is being created: my hand is no longer my hand, my foot is no longer my foot, my breath is no longer my breath. We are five individuals of course, but that feeling really exists within us. That is to say, when I fill in a space there may be between us, I touch my skin as if it were someone else's, as if it is another dancer's. We try, as soon as something moves, to be in a movement together. I don't know how to say it, but there is a unicity that is created, a true unicity. And it is a bit difficult to explain in words...

**Video 42:** 05 :09 – 05 :54 – Agnès Guy

Also, when another body touches mine, which goes into my flesh, or another breath than mine comes to my ears, it becomes mine, it belongs to me. So we have the feeling we are one, we are not five, but we are really one. It is as if a kind of membrane surrounded us. We feel like a cell, as if a membrane surrounds us, even when we are going to separate, we always feel there is this membrane that is there. So as soon as one person moves, she influences the others. It really is like one body: if I move here, it will pull on a shoulder over, it is the same thing.

In this section, two strategies were specifically cited, namely, those of slowness and the the plurality of time-space. They in fact derive from a multitude of insights regarding diverse spatialisations and durations in the body and between bodies which were applied as performative strategies in the context of collective physical, mediated and carnal body. An analysis of these strategies follows.

## **Slowness as an appropriation of proprioceptive<sup>273</sup> changes in time-space**

Another strategy of destabilisation linked to my strategies for appropriating kinaesthetic changes consisted of exploring a new type of temporality, particularly with respect to movement. I was also looking for a certain slowness, to the point of immobility if necessary, to create the impression that time had stopped or was suspended. This process was part of my work within a broader strategy of 'de-hierarchisation' and the self-organisation of sensory and perceptual bearings. It offered another means to organise the body in movement, to include it within a flux of more precise and composite movement derived from contact and separation, but also in which individual bodies lost their specificity.

What I was interested in was installing another kind of temporality; a collective one. Because it is not linked to a single body and thus to the articulation of movement executed by a single dancer, but rather to the construction and relationship of movements and temporalities that are completely different from one another and that can either work in unison or be diversified through meeting and splitting, this form of temporality is related to a mode of bodily self-organisation inspired by Trisha Brown's strategy of transitory movement and a radicalisation of Steve Paxton's tactile body. However, for my work, I pushed Paxton's techniques to a point of almost hypnotic obsession from the point of view of contact and gravitational changes. Briefly, I was placing different temporalities in resonance in the same process of moving.

This process can be acquired during, or because of, a certain experience with technology. It can also be described as allowing for a renewal of trajectories in the matter of the body, of sound, and of space: trajectories that I trace in these different

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<sup>273</sup> Written in collaboration with Enrico Pitozzi during an interview composed of emails (2009a, 2009b).

elements which are interrelated in my work. What I am evoking is a capacity to understand and listen to every corporal and sensory transition and transformation that technologies allow one to develop and this, at different stages of intervention. Once again, it can be summed up as a work of sensory organisation, thus of kinesthesia. After listening to and learning from movement from within the body, this information must additionally be exteriorised and transmitted to the spectator. Here enters the principle and pertinence of Merleau-Ponty's three sensory chiasms, in the expression and relationship of the body and the world (interior and exterior) as well as of intercorporeality. This work of listening and sensory learning also echoes the somatic principles I used as strategies in my research project.

## **The strategy of bodily spasms - towards a strategy of empathy and intercorporeality**

### **Study #2**

#### **Body Rhythms**

I also asked the dancers to explore different rhythms in their bodies. This led us to develop 'spasms': very short movements of contraction occurring in a part of the body. The underlying idea was to develop rhythms that could be linked to the structure of interconnection, thus rhythms constructed through the interrelationship of different bodies in movement. In the video documentation, this principle is shown in its infancy when it had just been discovered.

#### **Video: File Meat Paradoxe-Phase 2 Enghien – Nov. 2007**

**Video 43:** 0 :24 – 0 :29 (two spasms, one dancer reacting to that of another)

**Video 44:** 1 :40 – 1 :45 (arm spasm provoking a spasm in the knee of the other dancer)

### **Study #3**

#### **Bodily Rhythms**

The exploratory process on 'spasms' was continued. Given that the principles of interconnection (intercorporeality) had become clearer (thanks to the breathing technique described above and a better understanding of the principles of interrelated and unhierarchical movement), we were able to work on a principle and rhythms of 'spasms' passing from one dancer's body to another.

#### **Video: File sans titre3-son 1.mov**

**Video 45:** 2 :11 – 2 :17 (several spasms propagating in different dancers' bodies)

**Video 46:** 2 : 30 – 2 :33 ((same phenomenon)

**Video 47:** 2 :56 - 2 :58 (same phenomenon)

**Video 48:** 4 :27 – 4 :31 (same phenomenon)

**Video 49:** 5 :20 – 5 :24 (same phenomenon, but in a movement investing a slight verticality)

**Video 50:** 5 :55 - 5 :58 (same phenomenon, but in a movement investing a slight verticality)

### **Studies #2 and #3**

#### **Specific techniques used for the development of this section**

No specific technique other than those already mentioned (contact improvisation, development of sensorial autonomy, augmented rest, *et caetera*) was used.

Concerning Study # 2, these principles were discovered in the last two days of the residency.



### **Development and progression from Study # 2 to Study # 3**

The progression of work on body rhythms was significant between Studies # 2 and # 3.

Training for the transit of spasms with body parts in direct contact with other dancers constituted the first step in understanding this principle of 'collective rhythm' I had started in Study # 2 and that became more complex in Study # 3. In Study # 3, spasms could spread not only to another dancer's body, but could also occur in a body part that was not in direct contact with another dancer. With amplified sound (which was always linked to their movement), the dancers were able to perceive each others' rhythms even though they might not in direct physical contact. This result was interesting because it became a tool with which I was able to build awareness of intercorporeality.

### **Evidence - commentary by members of the Observatory**

Louise Boisclair delivers an account of how spasms, as an empathic physiological strategy, participate in the construction of intercorporeality, and further, to her involvement in an empathetic dimension as spectator. Issues surrounding the strategy underpinning the 'collective spasm' were introduced in Chapter 5, Section 5.3.1. Boisclair's account only concerns choreographic research on the collective body at the beginning of Study # 3, so a pre-Study # 3 that was conducted without technology. Enrico Pitozzi's account of the empathic dimension follows.

### **Video: File 09-DVC C9 Observatory 01**

**Video 51:** 33:07 – 35:40 - Louise Boisclair - pre-Phase # 3

In your methodology, you ask us if we can check and see if the work of dancers connects them together and spreads to include the spectator. In my view, the example I have is the pre-Study # 3 when I went to the dance studio. I attended this research phase in September 2007, in a small studio, with five dancers, Isabelle you were not dancing, you watched them. At that moment, I was sitting on a couch and watched the dancers, while thinking about another presentation that I had seen in the Hexagram studio (Study # 2). There was no sound this time, there was nothing. There were just bodies. And Isabelle you said: 'Let's start, and note that the dancers are not really

accustomed to the process'. What was extremely present and which corresponds to the cannibalization of gesture, was the fact that I was there, I was a spectator, and the dancers began. At a certain point, I felt bursts, dancers touching each other and there were bursts (collective spasms). There had been no bursts in what I had seen at Hexagram. The bursting, for me, corresponds to: me, I jump because they are jumping. So the way I saw it seemed to come from a bodily connection- a little like a pendulum - that the movement of one generates in the other, and at some point causes a burst. I explain it in my rudimentary language with respect to a choreographic explanation. But I found it interesting and I found it new. Because I said to myself, I feel what I see as a spectator. So they managed to communicate that feeling of bursting.

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Quotation have approval to be used

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**Video 52:** 35 :41 – 38 :10 - Enrico Pitozzi – phase #2 and phase #3

I have a question in relation to this, because the ability to recognize in our own physicality what we are viewing is, in my opinion, always present. So for me, this issue should be revisited or reconsidered. Because it is not a question of understanding whether or not there is a relationship with the spectator, because the relationship is always present, but rather to understand on what level we experience this relationship. We must also ask the question of on what level there is a change in the spectator. Because when one says: I was aware there was an empathetic relationship with the stage (the dancers), I specify that it was only at that particular moment that you were aware of it. Your physicality is always related. You can be aware of it or you may not be aware of it, but it is always there. You become aware of it because the degree of connection becomes very strong. A lot of energy passes. You're always in the process of recognizing the movement the other person is executing, but there is a level of intensity in this connection, so that is the key to everything. We must think according to the level, according to the degree, etc. So I suggest you ask the question differently, and not ask if there is a change in the spectator, because the question of change is already in place, but rather to ask on what level this intensity is situated, on what level change is situated. So what is the level of intensity the dancer must achieve in order to produce change in the spectator.

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Quotation have approval to be used

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**Video 53:** 38 :11 – 38 :14 - Isabelle Choinière

I think it is the level of connection that is necessary to reach in order for it to have an impact on the spectator.

**Video 54:** 38 :15 – 38 :17 - Enrico Pitozzi

And thus the question of what kind of impact there must be.

**Video 55:** 38 :17 – 38 :08 - Louise Boisclair

So yes, I think it was what Enrico said. But as a spectator, I don't really care in the end, because what is projected is what I capture. But what I think Enrico is speaking about is how the composition can work to produce these effects. It is thus a mode of organizing the spectator's attention. In my opinion, this is what gets interesting because I, I perceived it because I was present to what I was viewing, and something happened and I captured it. What Enrico is saying, is how we can consciously produce it, technically, in the composition, so that these effects, that I picked up on at a certain point, can be reproduced, or considered reproducible.

Here follows a more theoretical analysis of these experiments.

## **Multirhythmics as a new process of movement**

To understand the complexity of this strategy, the work of Lygia Clark can be recalled. According to Clark, the collective body is an experience that is 'both personal and collective, as it is constantly connected to that of others within the same polynuclear structure' (Luz 1975; Rolnik & Diserens 2005). In this collective body, and more specifically as I develop it, the individual has the impression of being one and several at the same time through the 'dissolution of the surface, of psycho-corporal boundaries' which is one of the possible applications of the principle of risk-taking. Lévy's theories, presented in Sections 2.6 and 2.8.4 on real-time, propose an alteration of existing notions of time-space made possible with the advent of technology.

Looking at how I experimented with this concept on a physical level, it can be seen that I developed plural strategies of time and space — which are in fact multiple moments of awareness about various spatialisations and durations within and between bodies — which were applied to performative strategies in the context of collective physical and mediated body, and embody Merleau-Ponty's principle of coexistence in their meeting in the carnal collective body. In fact, multiple spaces and durations are made to coexist:

- a) — the internal space of the performer;
- b) — the mediated internal space of the performer;
- c) — the space of 'vibratory intersubjectivity' — intercorporeality — between performers, between performers and the audience, between these two entities and the designer-conceptors;
- d) — the perceptual space of different stage projections that are experienced as pulses of presence (in each articulation of the dancers' movement, in the collective body, in the

collective mediated body, in the articulation of movement depending on gravity that creates multirhythmics in the collective physical and mediated body).

I also experimented with different temporalities through a strategy of multirhythmics. This can be as subtle as those created by articulations, spasms and tremors related to the emission of sound in real-time, or more comprehensive with gravitational shifts that affect the entire structure of the collective body and that feed the collective mediated body in real-time. It involves a strategy of performative experience wherein several proximities and several spaces can coexist.

It also leads me to propose strategies forming a new type of nomadism, a system of 'vibrational intersubjectivities' which influence themselves, which are fed by each other and finally form interfaced intercorporeality. This gives shape to what I call the 'metaformance': a system of empathic, heterogeneous, multiple and mutant 'coexistence' that has as its foundation, a personal risk-taking, an openness to the state of fragility as defined by Rolnik, and a state of perpetual transformation as defined by Merleau-Ponty and resonating with the culture of the flow and the transitional proposed by Buci-Glucksmann.

### [Second section](#)

**Video: File Sans titre3-son1.mov**

**Video 56: Second section 23 :12 – 24 :20**

This second section is mainly based on principles of dehierarchisation I was experimenting with.

### Study #2

**Video: File Meat Paradoxe-Phase 2 Enghien – Nov. 2007**

### **Overview**

Key positions of the legs were developed in Study # 1. They were based on certain positions (the legs only) in the *Kama Sutra*. I used this postural base as a starting point for the gestural study. No erotic content was intentionally kept. Only formal and gestural exploration was retained.

### **Description**

What was under consideration in this section was mainly a group of four dancers.

Four of the dancers are lying on their backs. Each one has her pelvis in contact with another dancer. The direction of the torso varies (they can be in opposition). The fifth dancer is just beside the group. The four dancers have their legs in the air and mingle legs and arms. The lone dancer continues this exploration of gesture, but is separate. The movement is relatively slow.

### **Principles of movement**

The principle of movement applied here is one of self-organisation and deheirarchisation. The rule was to move the legs, and after involve the arms. The dancers were to use the weight of their elongated legs to push the legs of the other dancers or 'pull' on a part of someone else's legs using either their ankles, feet or knees, forming a kind of 'hook' for example. Arms mingled with legs, as if they belonged together. The dancers were also instructed to let their legs go into the body of another dancer, for example, between the legs of another dancer in order to move her leg over the torso of the other dancer. Another rule was to make others' body parts move, but not

just those of the next dancer, but also those of a second or third dancer away. They could also touch themselves.

Similar rules for arm gestures were also involved. The dancers were also instructed to slightly involve the torso in twists. But this last rule was rarely integrated. Guidance for exploring different types of touch was given here. Movement in this section had the qualities of flames in a fire or of algae moving. The principle of movement involved had a very aerial quality based on the sensation I had experienced, after nearly four years of training in Bartenieff Fundamentals, when I was able to feel deep muscles (the psoas amongst others) moving the whole leg as in the femoral flexion-extension exercise.

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Figure 68 has been removed due to Copyright restrictions.

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Figure 68: *Femoral flexion*, in Hackney, Peggy (1998) *Making Connections*

In Study # 2, the dancers had trouble understanding the principle of self-organisation. To help them, I joined the group, so they could learn from my sensation, and in an empathic way, the connection and sensation they needed as a reference. As they were not able to (these dancers lacked 'introspective and sensate concentration'), I continued this process in Study # 3. In Study # 2, I was not able to devote much time to it.

One of the main orientations was to reproduce, on the level of the pelvis, a quality of 'opening' (a term related to the question of performative presence). That is why the dancers explored various openings of their individual body parts (legs and arms). This work on opening the pelvis was conducted in order to stimulate a greater involvement of the body, not simply of the torso, but also, with the pelvis-legs-feet. It also involved working on the three-dimensionality of the body (as in the first section).

### **Study #3**

**Video: File Sans titre3-son1.mov**

**Video 58:** Second section 23 :12 – 24 :20

### **Description**

The description of this section is the same as for Study # 2. Only a complexity of kinaesthetic organisation was increased.

### **Principles of movement**

The principle of movement applied here still involved sensory self-organisation, augmented rest and deheirarchisation. However, this principle was explored in a more satisfactory way, as I had more time to spend on it and also, because the dancers in Study # 3 had a better understanding of it, even if they were less proficient in contact improvisation and somatic practices. Rules concerning the pelvis were maintained and I also asked the dancers to continue working on opening the pelvis.

### **Development and progression from Study # 2 to Study # 3**

Having more time to devote to the principles of self-organisation and deheirarchisation led to the possibility of developing greater complexity with the organisation of gesture. As the dancers of Study # 3 were capable of investing themselves as 'researchers' on a physical and conceptual level, they were better equipped to invest in these principles and therefore, in performative gesture and presence.

#### **5.3.3.3 Technological choices**

##### **The need for new tools**

With my practical research for this thesis, my intention was to develop a discourse on corporality and the experiential (and not one that would diminish it). The chosen technologies were conceived and developed in order to create a truly mutant and mixed form of writing, thus allowing me access to all the necessary sound and kinaesthetic registers to generate music and movement in a situation of total interdependence.

It was only during this third creation that real tools enabling me to enhance corporality, through the creation of the sound body, amongst other things, were developed. Through the various stages of my research, I had been motivated by a strong desire to go beyond the instrumentalisation which technology often imposes on performers. I also had the firm intention to enrich the experience of corporality. Part of my formal training, somatic techniques were a springboard for the method I created. I was therefore working on modifying corporality.



When Study #2 of the project began at the University of Quebec in Montreal (*U.Q.A.M.*) and at the *Centre des Arts at Enghien-les-Bains*, France, I began developing the idea of synaesthesia through sound. Synaesthesia<sup>274</sup> stems from the ancient Greek *syn*, 'together', and *aesthesis*, 'sensation'. It describes the phenomenon of experiencing several sensations at the same time, implying that the neurological system, stimulated by sensation, moves in the direction of experimenting with other senses simultaneously. The aim was to discover possible relationships between a collective body of performers and the creation of sound in real-time that might effectively allow me to avoid this causality. I thus began to develop the idea of the collective sound body. This process also aimed to generate a performative structure and artistic dynamic expressing the complexity and interconnectedness the world plunges us in today.

### **Introduction**

I was looking for a technological system that would allow dancers to have complete freedom within their space. An environment that could be unrestricted for movement and for the spatial organisation of the dancers was needed.

The system would have to capture the kinaesthetic activity of five moving dancers who were in almost total physical contact. I wanted a system that could provide uniform sensitivity, that is to say, in which there would be no zones called 'triggers'. The system I desired had to be able to recognise and capture the dynamics of interrelated gesture. I also did not want the technology to be worn or visible on the dancers' bodies so that they might benefit from a full range of gestural and kinaesthetic opportunities. The presentation of my arguments regarding technological devices is presented in

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<sup>274</sup> Viewed 8 November 2014, online: [http://synesthesia.prometheus.kai.ru/sinestes\\_e.htm](http://synesthesia.prometheus.kai.ru/sinestes_e.htm)

Chapter 2 from different points of view, notably in Sections 2.3, 2.4, 2.5, 2.7, 2.8 and also in Sections 3.1, 3.2.1, 4.3.1. and 5.3.3.2.

## **Historical overview**

### **1. Research on existing tools**

Research in collaboration with the Department of Interactive Music at McGill University, Montreal, provided a laboratory for exploration and testing, over a period of six months in 2006, of different strategies and existing tools for motion capture. In the light of the project's objectives, tools such as capacitive sensing, video sensing, infra-red sensors, accelerometers, *et caetera*, proved to be inadequate. For example, interactive systems based on video analysis were too light-sensitive and unable to distinguish between a single body and a mass of bodies in contact. Bodies had to be completely isolated.

Capacitive systems provide information about the dancer's body part that is closest to the sensor. Therefore, these systems do not give information relative to the complexity of the moving body that I required. No relationship with real physical activity I wanted to analyse was possible (for example, where an immobile hand could be close to the sensor while the rest of the body moves).

Finally, other technologies which require that sensors be placed and attached to the body were undesirable in this context, because they reduced gestural possibilities with their bulk and were visually distracting. I continued this same kind of investigation with *L.A.N.T.I.S.S.* - The Laboratory of New Technologies of Image, Sound and Stage - in Quebec City, and came to the same conclusions.

We also tested a prototype for floor contact (based on a principle of corporal conductivity between two or more bodies), but several problems arose with respect to the goals I set out to achieve. Firstly, this system was based on a principle of contact between dancers and the floor. During these tests, we also found out that contact between the dancers was not the component that could allow for a clear and legible kinaesthetic relationship between the dancers and media environment to be registered.

The floor had to be made of aluminum (or another type of metal) and was not suited to the dancers' needs (it was cold, rigid, thus conducive to injury) nor to the needs of the scenography (we could not paint it because covering the metal decreased its conductivity and also, the metal created the impression of a flying saucer that the dancers named *Démétane!*). The biggest constraint however was that corporal conductivity was only effective if two hands touched. The system was unable to read conductivity between two legs or between two torsos for example. The system was tested during Study # 1 and, due to its inefficiency, abandoned thereafter.

## **2. The conception and testing of a new tool: the interactive sensory floor**

We then thought of creating a sensitive interactive surface capable of meeting all our needs and goals. To create this surface, we tested several types of *piezo* microphones placed at the perimeter and in the centre of the performance space and on a wood dance floor, a suspended floor. The results of this test produced an extremely sensitive surface that could distinguish between the density of bodies, the dynamics of movement and the position of dancers in an interconnected relationship.

The use of *piezo* pickups allowed for the creation of audio information from the dancers' movement. Thus, we noted that space could become *a sound body* that could be

"played" by the dancers. The *piezos* detected the smallest vibration of the dancers' movement. With this floor, space could become a complex, hyper sensor because vibrations were perceived by several *piezo* pickups at the same time.

The result was an organic hyper system because the zones of vibration acted like a spider's web. Individual movement affected the general state of the system. The resulting sound from this system was very complex, rich and organic (we were aiming to go beyond a relation of cause and effect). The dancer *played with* space. Sound creation was immediate, in real and continuous time, and did not act like a trigger system or series of interactive buttons. In addition, the dancers could perceive the system in a bodily manner and not cerebrally. They entered into a kinaesthetic group relationship, as if the five bodies were a collective body, a unique and complex body. Because the system relied on floor vibrations, its resonance and surface textures were basic components in the system's functioning. High quality piezoelectric sensors were necessary (and were being studied) to refine the capture of floor vibrations and thereby, of the sensitivity and refinement of the entire system.

### **3. Technical description of the interactive sensory floor**

The sound processing system was elaborated as follows:

- Piezoelectric sensors (*piezo*) were integrated in the dance floor to capture vibrations;
- Piezos were connected via a box with two analog inputs of two digital audio interfaces (RME Fireface 800);
- The sound signals captured by the *piezo* pickups were routed via the interface to the audio processing software (Ableton Live<sup>275</sup>);

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<sup>275</sup> Ableton Live software is an advanced digital studio processing system for real-time processing ([www.ableton.com](http://www.ableton.com)).

- The processed signals were then sent to the spatialisation software (ViMiC) which assigns different output channels of the interface;
- Analog interface outputs were connected to a sound system consisting of eight speakers and three subwoofers.

This chain of sound signal processing had several advantages:

- instant and rich movement-based audio response;
- the possibility of processing audio signals in real-time;
- the processing and routing of each sound source completely independently;
- no requirement of a sound console (reducing equipment for research abroad or in different halls).

The software ViMiC was developed by the Centre for Interdisciplinary Research in Music Media and Technology (C.I.R.M.M.T.), a research group based at McGill University. ViMiC also proposed an alternative approach based on a system of virtual microphones. This virtual environment allowed me to place the microphones where I wanted, and to choose their orientation. The architectural system supporting ViMiC was designed to offer great flexibility in creating sound images. Through its graphic interface in 3D, ViMiC could also help to organise the choreography of the sound body.

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Figure 69 has been removed due to Copyright restrictions.

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Figure 69: The graphic interface of ViMiC, 2006, by C.I.R.M.M.T.

We had planned to program a series of MAX / MSP patches to allow the software to communicate and pass on audio information from LIVE to ViMiC. We were hoping the chain of signals would allow for a rich and immediate audio response when dancers moved. These software programs were designed to allow us to work on moving perception via a psychoacoustic approach.

## **Study #2**

### **Problems encountered**

The main problem encountered was that the system only worked with a suspended wood floor. We had conducted initial tests in an exploratory residency at the Dance Department at l' *Université du Québec à Montréal (U.Q.A.M.)* in the summer of 2006. The system worked fairly well. I then had access to the offices of HEXAGRAM in September 2006, which were located in loft with a concrete floor. For the safety of the dancers and so as not to damage to their joints, we installed a carpet of thick foam

on the concrete floor. These were the type of mats used in gyms. We were surprised to find that all the sound vibrations were absorbed by the foam padding.... Our system thus no longer functioned... During our residency in *Enghien-les-Bains* in October and November 2006, the same situation occurred as the permanent room flooring was made of another type of foam that was even more compact. The *piezo* pickup system was abandoned in the early days of the residency at *Enghien-les-Bains* in Study # 2 because it did not work.

We therefore only used the microphone system worn by each dancer (camouflaged and held in place by a black turban on their heads). These microphones were connected via a wireless transmission system, to a sound card and computer. The digital processing software used for audio output in real-time from data received from the dancers was Ableton Live. In Study # 2, following this situation and from the first week on, we worked primarily on the voice and breathing of the dancers to explore another principle of sound synaesthesia.

Also, despite the promises of the software spatialisation program ViMiC (which was taken to the residency in *Enghien* - Study # 2), it never worked as it was still in development. So we could not use it. Consequently, no further exploration of sound spatialisation in Study # 2 took place because the software was not functional.

### **Description of the system used**

Wireless microphones were hidden on the heads of the dancers. It was thus five microphones that captured the voice and breath of each dancer individually. The microphones were placed on the forehead and the required wireless transmission system

camouflaged by the turbans. The system consisted of wireless microphones, an audio/digital interface (RME Fireface 800), a computer that was installed with the audio processing software (Ableton Live), and four speakers suspended from the ceiling of the room.

### **Study #3**

#### **Technical description of the *Ring*, a spatialised sound software and real-time instrument for spatial composition**

For Study # 3, we used the *Ring* software.

The *Ring* is a real-time multiphonic spatial instrument. Simple and autonomous, it has been used in performance, interactive and generative installations and studio spatial composition. Originally designed in 2002 as an instrument of live sound projection, The *Ring* evolved to allow for writing complex spatio-temporal scenes. Its graphic interface is based on a spatial representation of animated sound objects. The program defines spatio-temporal behaviour from sound captured in real-time and/or integrated prerecorded samples with normal digital audio tools. Antoine Schmitt (France) created the software, Olivier Koechlin (France) the material implementation, and Dominique Besson (France) specified the functional interface, directed testing and wrote the accompanying documentation.

In the form we experimented with, the *Ring* was implemented with a ring of eight identical speakers uniformly distributed in a circle and oriented concentrically. The audio projection system therefore operated on a horizontal plane and does not take into account a vertical dimension. The system was designed as a real-time instrument for projecting moving sources in a non-oriented (or non-frontal) virtual sound space, virtually infinite and without reflections. Here, it should be noted that although



spatialisation was possible in real-time, it was only possible under certain conditions such as moving a single point in space at a time and not, for example, treating the sound sources themselves (as with Ableton Live for example).

From the perspective of a single listener in the centre of the room, the *Ring* behaves like 'octophonic headphones' on a large scale. In a collective listening situation, the audience is positioned in the centre of the circle, but can turn in any direction or move around. The sound processing functioned by controlling the amplitude and phase of each source's contributions in each of the speakers, with the latter, according to Dominique Besson (2009), acting as microphones in virtual space and sources in real space. At that point in time, the spatial model could only take into account direct waves between each source and each speaker.

As mentioned, the graphic composition interface was mainly spatial (and not temporal as in classic editing suites). The system allowed for the animation of a certain number of mono or stereo sources as programmed paths (to and fro, in a circle...) or that were drawn freely by hand on a map of virtual space. The temporal sequencing was structured in scenes (presets) composed of sound objects that were programmed in their temporal and spatial iteration. The sequencing engine was thus based on the notion of autonomous objects with programmed temporal behaviour (through digital parameters of duration, over which some degree of randomness could be attributed).

A tool for editing trajectories, a graphic tablet, was used to introduce the concept of a spatial envelope, wherein the amplitude of sources could be controlled by pressure on the stylus, much like a painter with a brush. It was thus possible to work instrumental gesture while observing its impact in acoustic space in real-time.

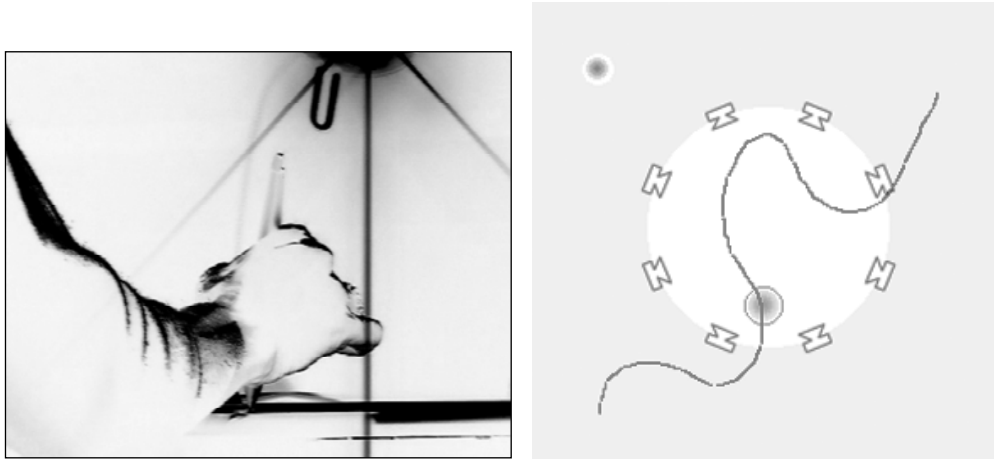


Figure 70: The *Ring*, spatialisation pattern, Dominique Besson

Figure 70 have approval to be used

### **Developments made for working in Study # 3**

In preparation for Study # 3, we implemented a specific development which consisted of using the sound card inputs (eight inputs in the case of the MOTU 828 - the composer's sound card), as sources that we could position and reposition in the performance space as live sampling captors. This possibility had many advantages: it opened the door to all kinds of existing sound tools and treatments (ProTools or the equivalent, various plug-ins, Max, *et caetera*). It also allowed us to extend the *Ring* for live use in which incoming sources could be derived from acoustic or electronic instruments (here, the dancers' wireless microphones) and played in real-time. Consistent with the work we were doing, the *Ring* acted as an open system for real-time spatialisation with a gradual memorisation of signals and trajectories. However, in Study # 3, real-time processing of sound sources emanating from the collective body (the five dancers) could not be tested because no software existed at the time that could be integrated in the *Ring* for handling real-time inputs. It thus remained a project for future development. So we rather used sound coming from the five sources together, meaning that it could only be treated with the sound console. The microphones used were small Lavallier air microphones.

### **Development and progression from Study # 2 to Study # 3**

In Study # 2, the choice to isolate and highlight the voice as a real-time input without any other interface was not only dependant on the interactive sensory floor's ineffectiveness. I made this choice because I had begun research on sound synaesthesia, with the goal of establishing a clear relationship between five moving bodies and sound production. The work involved in creating a 'sound body' was complex in itself.

Choosing to work with both systems in parallel was not necessary. For me, complexity no longer fitted with a parallel use of several technological systems, but rather in another relationship to be established between the moving body and technology. This passage was important for my research. It marked a turning point in my approach to interfaces and constitutes the basis for a change in approach that I defend in Chapter 2.

In Study # 3, we used the voice as a real-time input and also a system of spatialised sound. This was the most important technological development in the transition between the two studies. Although the sound spatialisation was perceived in a general way by the dancers, it was more impressive for spectators. It was rather in Study # 3 that I started to experiment with the sensory-perceptual destabilisation of spectators, and from this, with the phenomenology of spectatorial reception. Simultaneously, I worked consciously (and not only intuitively) with the sensory-perceptual destabilisation of the dancers, and thus on the phenomenology of emission. I had already begun to think about and explore various modes of phenomenological emission with the dancers. Sound spatialisation enriched these processes. They constituted other steps undertaken to achieve the state of intercorporeality.

## **Evidence - commentary by members of the Observatory**

On the issue of the technological device that allowed for the development of sound in real-time, an excerpt from Louise Boisclair (2007, p.56) bears witness to what the device brings on an aesthetic and experiential level. The point is that this type of technology helps make audible (or visible) what was previously invisible. This excerpt is in resonance with Section 2.8 in Chapter 2 where the question of links between the collective physical body and the collective sound body is addressed. Boisclair's article is provided in Appendix 8.2.1 in the original language, French:

What does the technosound device add to awareness and the sensoriality of the body in the work? In *Autour des Demoiselles d'Avignon* (a name Louise Boisclair gave to Study # 2), the technosound device served as a prosthetic simulation of the relationship of the dilated body between image and presence. This means making visible effects of an energetic and synaesthetic order, formerly exclusive to the martial arts - long unknown, kept secret and denied by the scientific community. These effects are now being explored by artists who can simulate or stimulate them, thanks to digital devices as extensions of the body, sight, hearing and touch.

Isabelle Choinière's *Autour des Demoiselles d'Avignon* revolves around notions of symbiosis and fusion in this play between proximity and distance. In the intimacy of bodies connected to one another, constituting a dilated body, a larval creature becomes a mirror of a digital universe still inchoate... If technique is an interactive mirror, as stated by theorist Isabelle Rieusset-Lemarié, the dilated larval sound body is a signifying mirror. The diffractions of this *trans(e)dance* are as numerous as the angles of visual and sound re-de-composition, particle and wave media for the energetic body. As numerous as the spectators to perceive them, dehierarchise them and rebuild them.

### **5.3.3.4 Sound**

#### **Introduction**

Exploration of sound occurred mainly in the first section (*Morph*). No further exploration of producing sound in real-time could be made in the second session for lack of time. It will thus not be discussed in this section.

#### **Study #2**

In this study, I only worked with the five dancers' breathing. The five sound sources were processed together and could not, at this stage, be separated. The idea was

to produce a collective sound body with the breath of the five dancers. We worked mainly on dynamic registers of breath (inspirations and expirations) only. My intention was to work on creating a legible relationship between the moving body of each of the five dancers in their relationship to the collective body, thus to the group of five dancers. I sought to identify the type of action that could be linked to the production of their breath in order to establish a clear and consistent relationship for the spectator to perceive between dance movement and sound production, and between the physical collective body and the production of the sound body in real-time. We realised that it was not necessarily the biggest displacement or movement that was most effective, but rather gesture capable of marking an accent with respect to the entire group of moving bodies. So the relationship always had to be thought of in terms of the complexity of five moving bodies and not in relation to a single body.

The image I was trying to recreate was the complexity of the relationship of waves in a sea. How could each wave make a sound that participated in a collective sound - that of the sea?

Video: Meat Paradox File Phase 2 Enghien - November 2007

Video 59: 2 :25 – 3 :17

Video 60: 4 :33 – 5 :18 (following the transition, for explanation only)

Video 61: 5 :25 - 6 :10 (following the transition, for explanation only)

### **Study #3**

In Study # 3 and in the first section, composer Dominique Besson worked with diverse dynamics of the dancers' breaths - inspiration and expiration in the production of these sounds (on my request). But layer by layer, step by step, she gradually complexified it by giving specific instructions to the dancers: inspirations and

expirations with clear sound or other types of sounds (with the vowel a, â, s, or sounds: pfff, chhh, ça, sa, for example), asking them to make attacks at the beginning of the production of sound - shorter, more open, involving different positions of the tongue - or at the end of the production of sound, *et caetera*. She then added sounds of physical pain (at my request, because dance practice inevitably leads to experiencing pain in the body which is almost constant) such groans, growls, broken breaths (as a result of a body part being crushed, *et caetera*), starts (sharp inspirations), *et caetera*. She also explored various vocal techniques with the dancers to enrich their vocal vocabulary. She thus gave them instructions that they tried to follow; she also asked them to whisper. Towards the end of the residency, she gave them vocal training, demonstrating and reproducing the techniques involved. For example, she gave examples of a recording by a clarinetist who worked directly on the mouthpiece of his instrument. She chose certain sounds and had them listen to them so she could reproduce them as closely as possible with their voices.

It is important to mention that all the vocal work was based on guided improvisations. Here, one cannot speak of a score, but rather of guidelines that were part of a progression based on temporality of a performative nature. Thus, it was the experiential nature of what the dancer was living in performance that shaped the length of an action, and thus of the production of sound. In the first section (*Morph*), this working method gave entire creative latitude to the dancers, with lived experience thus becoming, determining and defining the performative act.

A table of notes (Choinière 2008) follows that details the tests that were made. The notes also served as reminders of the tests' contents, and as a means to understand the relationships that had been constructed between the various elements in play (movement, choreographic structure, rhythmic structure, sounds and sound processing,

movements of spatialisation, *et cetera*). The dancers had freedom to invest creatively in what they were doing and to explore and develop the material. This table is by no means a score to follow. It rather situates the creativity and the existential performative moment of the dancers as having determined its transversal and evolutive structure.

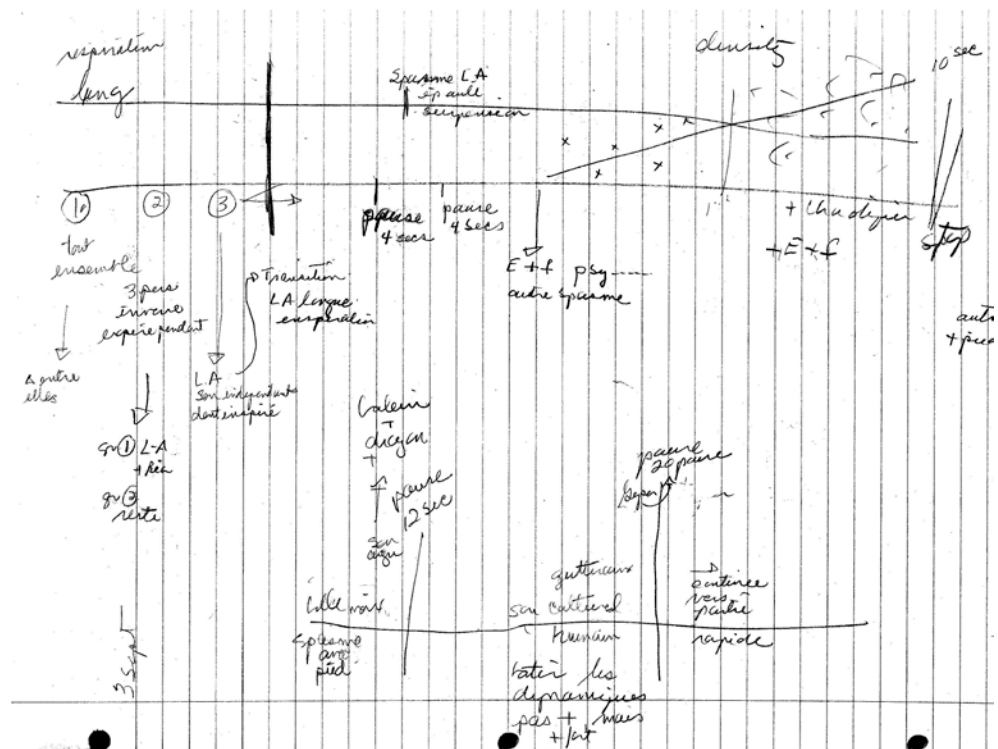


Figure 71: Study #3, *Morph* (2008) choreographic notes on the relationship sound/movement

Figure 71 have approval to be used

As stated in the introduction, I will not discuss Section 2 (*Legs*), as the composer used a prerecorded tape. The length of the residency was too short to invest in further exploration of the production of sound in real-time. Also, given that the tool did not allow the composer to include a digital processing software such as Adobe Live, she found herself, as she said, facing choices that were limited in terms of sound production. We disagreed on this point.

The dynamics for spatialising sound were diverse. The composer used a tool for reverberation at the beginning to create a feeling of space. Then she processed trajectories of sounds, employing different strategies of spatialisation (a circle with a

source, circles in opposite directions with two sources or different groups of sources, paths in different zigzags for each grouping of sound or for individual sounds, long arcs, *et caetera*).

### **Progression from Study #2 to Study #3**

A significant source of improvement from Study # 2 to Study # 3 lay in the enrichment of sound sources. The dancers in Study # 3 were able to produce more varied and precise sounds - at my request and with training from the composer, Dominique Besson.

What follows is an account by Besson who speaks about the evolution in the diversity of sound material and how she conducted her work in order to develop it. Her preoccupation with linking the production of sound to the question of kinesthesia was an important element in the success of this study.

### **Evidence – comments by Dominique Besson**

#### **Video: Fichier 03-dvc entrevue Dominique.mpg : interview with Dominique Besson**

**Video 62:** 05 :32 – 08 :04 – Dominique Besson

To understand the space created in the section '*Morph*', it is not enough to position points in space, but it is also necessary to have variety of sound materials that takes into account a complexity, of something that cannot be anticipated. That is to say, we cannot anticipate how a river flows, nor anticipate the way clouds spread, nor anticipate how a body will live and start moving in front us. For the dancers, it was necessary to have a collection of sounds sufficiently diverse that we could arrive at this impression of identity, of complexity. But dancers are not musicians and they do not have practice in a diversity of sound objects nor the imagination that goes along with it. So we had to come to work with the breath, but with an oriented breath. That is to say, you have to get their diaphragms working, abdominal movements, opening the larynx, the oral cavity, but without rushing them, without using language, a terminology that is not their vocabulary. So at the very beginning, to form their imagination, I used the sounds of a clarinet. These sounds were performed in the instrumental body, without a mouthpiece, and can be extremely varied, with a full range of textures, attacks, to give concrete examples.

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Quotation have approval to be used

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**Video 63:** 14 :07 – 14 :51 – Dominique Besson



If my memory is correct, the first work was on colouring the breath, shhh, aaa, eee, pha, *et caetera*. Lots of things that were quite natural and corresponded to all movements of opening an arm, lifting a leg. These are movements and sounds that had a certain amplitude and are fairly easy to spatialize. You can thus bring a breath 'pchiiiiiii' (arm movement that shows its spatialisation). You bring it into space. It immediately has flesh, communication and these are sounds that one can thus mix.

**Video 64:** 14 :52 – 17 :28 – Dominique Besson

Well, fairly quickly, it ends up only producing one type of sound. Above all, it becomes fairly predictable. It was absolutely necessary to achieve this notion of unpredictability of the material and that is when I told them: Well, it really is something to receive someone's entire body mass, to accept having a shoulder almost at the level of your breast, it's almost painful. I reflected on the fact that flesh could be hollowed. So the notion of hollows and solids, a bit like yin and yang. And I told them I wanted them to give me an account of it and leave a trace of it in their sound. Also, of their surprise, perhaps about weight, or about the ways someone else might go towards their body, if it was in a disturbing way or in a natural way, if they could anticipate or, on the contrary, if they were surprised. And I realized that in asking this, it allowed us to have a wealth of sounds, precisely in their attack, that is to say, diversity in the ways of emitting sound. That this sound could be acceptance 'aaa' or 'pfff' (another example) as if it was really a shock, 'aace'. So I ended up with exactly the sound material that could contribute to fabricating a real space.

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Quotation have approval to be used

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Here are some of my notes taken down in the studio and included in my choreographic notebook (Choinière 2008), which show directions given to the dancers for ways of exploring "hollows and fullness" (sliding members = accents of speed / passing through, slowness almost to the point of immobility). I simultaneously worked on the issue of touch given that movements of the limbs (especially the arms, shoulders and hands, but not exclusively) might also include the pelvis, head, back and knees. Here are some of the ideas explored: the sensation of one's self and someone else's involvement in 'grabbing' (but also clutching, tensing, tearing, being more sensual, discovering, rubbing, skimming).

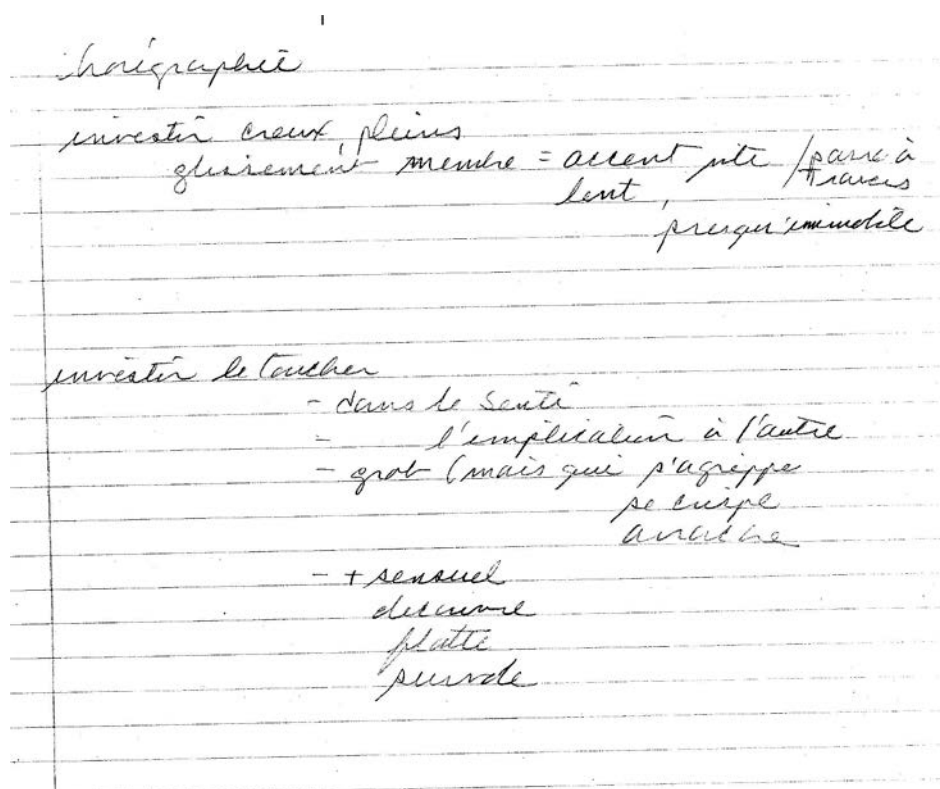


Figure 72: Study #3, *Morph*, choreographic notes, guidelines for the exercise ‘hollow and full’ as well as for touch (2008)

Figure 72 have approval to be used

Dominique Besson's account continues:

**Video 65:** 17 :28 – 18 :13 – Dominique Besson

So I gave an orientation to this work on the body's sincerity, so as breath could become an intimate space, so as it could reveal an inner perception, very personal, of the body. Both the body as body, but also the collective body because in that way, I had a response from all the elements, from each dancer, that really gave me very intimate information about the collective body.

Another major advance in Study # 3 was being able to isolate each sound source of dancers. In Study # 2, we could only access and develop them as a group of five sources together. In Study # 3, we could also group audio sources (in twos, threes, fours, and of course solo or all together). However, in the context of real-time control, we came up against the limitations of the graphic tablet and mouse. We could only treat one source, clustered or not, at a time because the mouse could only select one item at a time. To solve this problem with the tools we had, we had to pre-register combinations of sound sources. This caused problems in the temporal structure because we needed a

temporal structure based on experiential and 'performative time', rather than on a temporally predefined structure.

Another major progression in Study # 3 was to apply the process just described to spatialisation. The same constraints however remained. In her approach to spatialisation, Besson notes a link between with the dancers' moving bodies and the instrumental gesture involved in spatialising objects through her gestures with the mouse on the tablet. This element was also interesting for enhancing the relationship between the collective physical body and the collective sound body because it included Besson experientially in the collective body. The hyper-sensitive sensory and perceptual qualities she had to develop in order to get into a performative and kinaesthetic relationship with the group of dancers, created a performative and interdependent relationship that was very interesting. It will be discussed further on in this section in greater detail. This intersubjective bodily relationship became a relationship of intercorporeality, an empathic and truly mobile relationship and an experiential space of transition capable of generating a transformation of self.

### **Evidence - comments by the dancers**

It can be seen in dancer Agnès Guy's testimony that she was able to think about the changes her body was experiencing in the production and spatialisation of sound in real-time for this performance.

### **Video: File Sans titre6-2.mov : interview with Agnès Guy**

**Video 66:** 07 :47 – 08 :21 – Agnès Guy

It is really a luxury to work in the *Ring*. Because dancers, as a general rule, even if we work a lot in silence, when working with music, we perceive sound and try to feel it and interpret it in one way or another. Here, you only have to let sound traverse you because sound comes from all directions. It enters through all the pores: it enters your back, your front, it really goes everywhere. Here, we really have no effort to make and just have to let ourselves go. So, it's quite huge.

**Video 67:** 08 :28 – 08 :57 – Agnès Guy

For me, the movement of sound is really a performance. Ultimately, it is a sensation you could find when performing in a public place. Because people move, because we try to follow them...

**Video 68:** 08 :60 – 09 :07 – Agnès Guy

So regarding spatialized sound, there is this sensation that passes and in addition, it has a direction in the sound. So one only has to let oneself be carried, traversed.

**Video 69:** 09 :16 – 09 :46 – Agnès Guy

Also, I want to talk about our own creation of sound. This is very important because there are others, too, who create sound, who create the collective body. My colleague beside me will create a sound, it's through it that I will move. And me, I will make mine. It is not only obviously created with my movement, but it also will make the dancer who is beside me move, and that's what created this unicity in addition, this molecule.

### **Relative space, a part of the collective sound body**

Through performance and choreographic structures, I seek to build a relationship with space, but this relationship, rather than being formal, was here relative because it was closely linked to the experience of the body (in a similar manner to the way 'left' and 'right' are references for the moving body). As of 2008, I began developing a relative relationship to the movement of sound and its spatialisation (2008). Sound, in the third stage (2008) of the project, acted as a 'sixth dancer'. It was a part of the discourse on space and development of the idea of the collective body as a collective sound body.

I had thus been working on a kind of Cartesian abstraction of space. I prioritised a corporal notion of space, a relative relationship with it: relative for the dancers, but also for the organisation of movement in unison within the dancers' space, thus of the collective body. This particular relationship with space required that the performer rely on information from the interiority of the body as his/her sole reference. In my concept of the collective body, even though the dancers only partially adopted these principles, they could not rely on spatial references in peripheral space, nor in the space they

perceived around them when moving because I provoked an abstraction of formal space by placing them in absolute darkness. They could only find a sense of orientation within their own relative space, their internal space, their bodily space. They lost all external spatial bearings.

In Study #2 (2006), the dancers continually redefined their reciprocal relationship with and in space, generating as a result, another performative structure and a different type of organisation of figures of performative space while also generating the soundscape of the performance in real-time (although it was not spatialised in this study). This approach to the organisation of relations in space is similar to (although not coming from) dynamics of the swarm. Thus, the rhythm and positioning of the dancers in space were determined in relation to one another and this relationship was constantly changing within a three-dimensional structure of gesture and interrelationships. This principle echoes theories of flux and the transitional outlined by Buci-Glucksmann.

In Study #3, with the participation of composer Dominique Besson<sup>276</sup>, this relationship was complexified through working on figures of choreographic space in a tight relationship with figures in the sound space. We integrated the spatialised sound body within this relative relationship.

### **Intercorporeality: evidence and a brief theoretical analysis on the results of the integration process**

#### **Evidence - comments by the dancers and by members of the Observatory**

Continuing on with the idea of movement that is both structured and experiential, Agnès Guy makes comments about how she lived intercorporeality. In Study # 3, intercorporeality was produced by linking the collective physical body with

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<sup>276</sup> Biography: viewed 24 June 2009, online: [http://tqp.free.fr/bio\\_Dominique\\_Besson/](http://tqp.free.fr/bio_Dominique_Besson/)

the collective sound body, thus creating the carnal collective body, a concept of the body that, in its openness to the world (and as evoked in the research of Merleau-Ponty), can be said to exceed strict materiality.

**Video: File Sans titre6-2.mov : interview with Agnès Guy**

**Video 70:** 09 :47 – 10 :27 – Agnès Guy

It is like that, in a sort of sphere. It is paradoxical, that is to say, that we still find ourselves in a sphere where we are five individuals who create an individual, we are very together and our flesh is together. So it gives a real impression of a cocoon finally: surrounded by the *Ring* that immerses us and rebroadcasts our own sounds, our own breath, and, at the same time, there's this thing about being in a sort of circle, where we know we are a kind of artwork in 3D. The sensation of 3D that is projected outwards. So we are at the same time in the inside, the outside, the inside, the outside. We are always in that openness, and at the same time, are fed. There is really a balance that is created.

To complete Agnès Guy's account and its evocation of the symbiotic relationship and interpenetration of inside and outside, Enrico Pitozzi, member of the Observatory, in a presentation of Study # 2 of the project at *Enghien-les-Bains*, explains the importance of sound feedback as an intrasensorial strategy (the sound you create also "touches" you). Reflecting Merleau-Ponty's first sensory chiasm and image of the hand touching one's other hand, it firstly demonstrates the principle of reversibility. Secondly, referring to Merleau-Ponty's second sensory chiasm, it implies a complementarity of meaning in the perception of the world. Lastly, referencing Merleau-Ponty's third parasensory sensory chiasm, it is mainly responsible for underpinning a strategy of presence in stage projection. The issue of presence is analysed in Chapter 2, Section 2.8.4:

**Video : Fichier 08-DVC C2 Observatory 01**

**Video 71:** 14 :50 – 15 :36 – Enrico Pitozzi

For me, there is a question that must be dealt with separately: the importance of sound feedback for the dancer. For the dancer, it is very important. Because it brings about the ability to recognize the relationship between movement and sound that returns to the body. I think for the spectator, this is not as necessary, but it is perhaps another means for the spectator to enter the work (the research and creation). It is a lead for organizing the spectator's attention built on the relationship you put in place. So you have the possibility of making visible or making audible the direct relationship between movement and sound.

**Video 72:** 16 :55 – 17 :55 – Enrico Pitozzi

Also, there are different degrees of presence that emerge from this relationship. There is a first-degree one: the relationship with a single body and sound; a second degree, that of individual bodies amongst themselves; then another level, that of the collective body in relation to the sound that comes from movement on one side and the other in space. So with sensors and devices connected to the spatial dimension, you create another level of complexity. For me, in the work you did at *Enghien-les-Bains* (Study # 2), one must speak of two-dimensional presence. On the one hand, there is the presence of the body, which is made up of the individual body, and which is then made up of the organisation of the collective body. But on the other hand, there is space. There is a presence of space. When the mass of the collective body makes a movement, there is a presence of earth and there is a presence of the mass and there is a presence of space that is drawn by the movement of the mass.

The question of breath stemming from collective movement is presented here by Elysabeth Plourde (Study # 3) as an immersive empathic strategy.

**Video : 14 - DVC Observatoire C3**

**Video 73:** 29 :17 – 29 :42 – Elysabeth Plourde

To answer the question: Did I feel myself involved in any way or a part of the corporal, mediated and real proposition (of the *Morph* section) when I saw it as a spectator? So to answer the part of the question regarding the real (the physical collective body), for me, I adopted the rhythm of 'the object', that of the collective body.

**Video 74:** 30 :03 – 31 :36 – Elysabeth Plourde

That thing's rhythm, for me, who had just spent the weekend at a conference, and then went to see cousins, *et caetera*, I entered the Tangente space where the dancers were and there... I just changed gear. So in the beginning, it was perhaps a little more difficult, but very quickly, I realized that my own breath and body adjusted to the object in front of me (the collective body), the movement. I am convinced that I was probably experiencing them through empathy. On that score, there is no doubt. The breathing and everything else, all helped to my feeling integrated in the ensemble. The immersive effect was very effective. And immersion is a physicality. And for me, the question of the relative space the dancers were experiencing was quite different. It was something that was envelopping, but something that was closing in on me. I was part of that, but I did not lose my individuality. And I felt myself inside something. I was inside, and as in amniotic fluid, my heart started beating at the same rate as my mother's. You know what I mean? I became part of this matrix, in the immersive process, the matrix was very strong, and I was part of the matrix, and even if I was an element in itself, independent.

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Quotation have approval to be used

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Both Elysabeth Plourde and Enrico Pitozzi (Study #3) describe the complexity of the collective body (the physical and mediated bodies that form a whole), its immersive nature, and what she perceived as the interconnection between the physical body and the collective body when sound is produced in real-time.

**Video : 14 - DVC Observatoire C3**

**Video 75:** 34 :55 – 36 :31 – Elysabeth Plourde

It is certain that one finds oneself inside 'this creature', that is certain. You could identify that it (sound) came from here or from there, it moves, and the fact is that it is very encompassing. It was not a diffuse sensation as if there was sound everywhere. One felt that the *Ring* was a ring, you felt the circularity of movement and it moved around fairly clearly, on that axis, which was quite circular. Where there was a distortion of perception was when you were deep inside the 'object' whereas usually, you are at a relative distance. Here, you are inside. And the notion of metavision, of metaperception, perhaps it might be useful in explaining a portion of this sensation. When you're in the object, in order to be able to approach it, you must necessarily adopt an encompassing way of looking, because there, you are subsumed by the world, so you have to extend yourself in order to get an idea of what that object is. Then metavision forces you to see yourself watching. So you must take distance, but will that be larger than the object? You have to immerse your object of immersion and it is here that things become dizzy.

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Quotation have approval to be used

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**Video : 14 - DVC Observatoire C3** - Enrico Pitozzi

**Video 76:** 41 :36 – 41 :58 – Enrico Pitozzi

At times, I had the impression of being inside something like a mass (*Morph*). But I'm thinking about a condition and for me, it is connected to the question the quality of the composition.

**Vidéo : 15 - DVC Observatoire C4** - Enrico Pitozzi/ cont'd

**Video 77:** 01 :36 – 04 :58 – Enrico Pitozzi

So I'll answer the question: if I, I had the sensation of becoming part of this mass (the collective body) on a visual level (collective physical body) and on a level of sound (the collective sound body), hence, physically and in terms of sound, it partakes of the same form. I must say that visually it worked, but not all the time, because one problem for me is when the mass forms, I can identify the uniqueness of a body. So when that happens, I jump straight into the individuality of my own body. It is a break for me. But in the section of *Morph* (first section), it worked and there was no interruption of that feeling. That was the section where it is felt most intensely visually. The level of sound, it always worked, because I didn't have the possibility of isolating a body. So I always a becoming "sound" of my body. I have an organisation of my body, my perception completely changes depending on sound. But for me, the organisation of my body was occurring so as to be like the sound, also like the rhythm of the sound. So I do not want to experience visual interruption, because if I see the composition of a mass and then I see a body that detaches itself from the mass, I plunge back directly and immediately into the individuality of my body. I no longer become the body which is being composed (the collective physical body). But there are also two levels of the sound body for me. For if we are truly in a dimension of connection (the issue of proximity), I have the possibility of hearing the collective body that is spatialized, and I also can hear the dimension that is produced, so breath, contact with the floor, *et caetera*. So concrete sound (he makes a gesture of hitting the ground with his hand) is another dimension. So for me, there are two levels of sound that I must consider. And this produces another texture of sound, because I have a sound that is directly related to what I'm looking at and there is also a movement of the same thing (through its spatialisation). So a tension of the form that is being constructed. And this participated in my process of recognizing the form. So it's a matter of organizing my perception in relation to this. On the visual level and also on the level of sound, on the first level (physical, concrete sound) and on the second level - that of sound spatialisation. So it was no longer one or the other, but the ensemble that participated in my process of recognition. And in the question of metaperception, I am able to identify the different sources.

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Quotation have approval to be used

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**Video 78:** 05 :35 – 06 :06 – Enrico Pitozzi

So it takes a multimodal spectrum to be able to understand what I am see, what I hear and what I feel. This is why the question of the individual body (after the *Morph* section - not studied in the thesis) leads me to re-individualize myself. So for me it is a problem, because I am executing a process of becoming something and of becoming something other than myself and you stop me and you replunge me into myself. So this is why what follows the *Morph* doesn't work and why the form of the *Morph* works.



In order to create the necessary conditions for living an experience of intercorporeality (of which the accounts above partially touched upon), a series of strategies were put in place: a strategy of connectivity that I provisionally named the interval; a connective and integrative learning strategy; and an opening up of roles (and disciplines). I present them here in a more theoretical form.

### **The interval as a connective strategy**

In this practical research, I asked myself why the interval was so important for the present day. How might the idea of the interval have been inscribed and developed in postmodern dance (early 1960s-70s) and new/actual dance (early 1980s to the present (Banes 2002))? What different concepts of the body and states of presence ensue from it?

The fundamental path which dance traces in regard to the notion of the interval lies in a profound syncretic process, thus nourished by several visions of the world. In my view, it is the product of a cannibalistic process in the positive and integrative meaning it is given by Brazilian artists, because the interval describes a level of potentiality already present within the body and can be activated in/as a process of self-transformation. The notion of the interval is also strongly inspired by the Japanese notion of *Mâ* signifying time-space.

The technological times in which we live have made a break with the distancing that a vision-centred Renaissance period had kept us in (de Kerckhove 2014). We exist in multisensorial universes where we have instantaneous awareness of the whole (Weissberg 1988). Technology becomes the catalyst of a process of sensorial renewal by accelerating the embedding of a permanent destabilisation made possible by

electronic media due to the fact that several universes have become closer together (Rolnik 'Figures nouvelles du chaos' 2007b). What ensues is a constant reorganisation of our senses amongst themselves – our sensorial mappings – in which we find ourselves in a state of being, of life, of intensified presence; a state of openness and sensory-perceptual awareness which Suely Rolnik calls a 'state of fragility' – a state which results from these reorganisations – and which becomes a condition for the experiential.

This 'state of fragility' is essential in order to allow for a "vibratory" (Rolnik 'L'hybride de Lygia Clark' 2007c) or 'resonant' form of communication characterising the interval as it is understood by the Japanese. This 'state of fragility' is also a 'recognition' between bodies, a condition of the 'dissolution of psycho-corporeal barriers', and can, in part be explained by the phenomenon of mirror neurons developed by Italian neuroscientist Giacomo Rizzolatti (2005). The interval is a moving time-space, an empty space to be inhabited, a space of possibility. For the Japanese, all potentiality resides in the void, that of *a* becoming. For Suely Rolnik, potentiality resides in the 'state of fragility', of a reciprocal psycho-corporal resonance. This creates an intercommunication, and the possibility of a collective vibratory body, from which a new, expanded corporal schema can issue, resembling Merleau-Ponty's concept of the flesh and his principles of coexistence and intercorporeality.

The state of psycho-corporal recognition is enabled by the construction of a 'vibratory intersubjectivity' — an intercorporeality — instated by a common risk-taking, the 'state of fragility' and the state of emptiness to be achieved. This process is a learning process in constant motion, it is a principle of flux and the transitional. It takes place in a body-to-body relationship, but also between performers and audience,

although they are at a distance. This transformative relationship has the distinction of being empathic, integrative and evolutive.

### **A strategy of connective and integrative learning**

To complete this analysis, the next two sections give examples of a modification of performative behaviour from the point of view of composer Dominique Besson as she acted on the modification and spatialisation of sound in real-time.

During the last phase of development in spring 2008, I experimented with a creative process that was even more decompartmentalised while creating the collective sound body. My goal was to create evolutive content that could lead to a reexamination of role-sharing. In broadening the concept of the collective sound body, the composer placed herself in a complementary role of 'manipulator-generator'. Two systems were deployed in tandem: the *Ring* that she was manipulating in real-time and the system of wireless sound captors worn by the dancers.

I observed that this 'symbiotic' sharing of the collective sound body in real-time led to an extension of the kinaesthetic as well as to an exteroceptive relationship which participated in an enhancement of experiential corporality and a form of intercorporeality. This result was possible because of the very nature of the composer's artistic involvement in the work. This result was also possible thanks to the development of the notion of *hyper intimacy* – which is in fact a form of intercorporeality. Her experience as a musician (involving, amongst other things, breathing techniques and the complexity of her pianist's touch), facilitated her involvement on a level of the supra-sensorial (a concept inspired by Brazilian artist Helio Oiticica) and the hyper-intimate. This involvement was to occur as much as on a

physical level as on a mediated level. Simone Osthoff (2004), artist, art historian and professor of Art and Critical Studies at the School of the Visual Arts, Pennsylvania State University, explains the notion of the supra-sensorial in these terms:

[B]razilian artist Helio Oiticica speaks of this phenomenon in his practice and explains how samba practice has helped him to develop his ideas on the Supra-Sensorial: The Supra-Sensorial, promotes the expansion of the individual's normal sensory capacities in order to discover his/her internal creative center. The Supra-Sensorial could be represented by hallucinogenic states (induced with or without the use of drugs), religious trance and other alternate states of consciousness such as ecstasy and delirium facilitated by samba dance. For Oiticica, the Supra-sensorial created a complete de-esthetization of art underscoring transformative processes [...]. For Oiticica, samba was a conduit for the flow of energy and desire. Samba was a relay, a connector [...] he was incorporating in this process the kinetic knowledge of the body (Osthoff 2004, p.8).

### **The decompartmentalisation of roles: towards new carnal and mediated relationships**

I was thus testing new physical and mediated relational dynamics, precisely in order to bypass the type of instrumentalised relationship that, in my opinion, can hinder the development of a more pointedly experiential sense of performativity. With these new physical and mediated relational dynamics, a modification of the psycho-corporal state of the composer and the dancers was felt and exerted a mutual influence.

This symbiotic creative process also becomes a modality for deheirarchising the body. What happens between the dancers and technology is not simply an external relationship; it must blend with the performative process. In the context being described, this process was collective and fed by a type of 'vibratory intersubjectivity', intercorporeality. In the final phase of testing, we used Dominique Besson's *Ring* software and a development with MAX/MSP, an application that allowed for real-time input of sounds produced by the dancers to be processed in real-time in the *Ring*.

By asking the dancers to work with their breathing and to take into account new relational parameters relative to kinesthesia, proprioception and sensory-perceptual

awareness affecting the dynamics of the collective body as a whole, I introduced '[...] a change of bearings giving body to something very intimate through sound: the inner perception of movement' (Besson 2009<sup>277</sup>). The composer introduced gesture in her compositional practice through:

[...] forms and types of sound objects that, once animated with a life of their own in their spatiotemporal reiteration, form the sound space. In other words, organizing time that opens to the body and reveals it. By letting the collective body go towards creating the sound object with its own pace, a form is created. Regarding the sound object, this exchange enables one to observe the birth of unusual forms that are constantly renewed, but dependent on circumstances [...] A polymorphic and changing sound object characterized by a certain elasticity and which regulates itself like a body is produced. Its projection in physical space, its bursting forth from the circle of eight speakers, then acts on the proprioception of the dancers, implying awareness of what is being created collectively (Besson 2009).

I believe this approach is a way of avoiding the effects of causality, such as those seen in one-to-one relationships between gesture and a device that produces or triggers a media event like a sound or an image. The composer expresses this idea in a touching way with the following words on the hyper-intimate and intercorporeality:

[i]n this fashion, you obtain a kind of moving form that is animated, with a life of its own, self-organized in an organic way: a sound body. [...] In such a situation, you must learn how to read movement, bypassing the limits of perception of simultaneous phenomena, finding your bearings within the space of the choreographic figure, in order to highlight it by sculpting it in acoustic space, by giving it a projection, enlarging it [...]. The collective body is very sensitive, very reactive to its sound body. It's a little like it was inhabiting it, prolonging itself in it, discovering its expansiveness, its infinity. There is something here akin to flux, to sap that rises, spreads or collides (Besson 2009).

These kinaesthetic and proprioceptive changes take a long time to understand and integrate. Understanding the exteroceptive effect of technology on perceptual and sensorial modalities demands time for assimilation and, in my case, for a corporal and theoretical understanding of the transformation taking place. In my estimation, it is also important to review modes of production if one really aims to address questions of meaning, aesthetics, corporeality and intercorporeality. In my view, these modes of production demand an openness to collaboration for all those concerned; an understanding of a transversal type. They also require a methodology that attempts to

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<sup>277</sup> This article is provided in Appendix 8.2.3 in the original language, French.

appreciate other ways of understanding what is taking place, how it can be expressed in terms of aesthetics, structure and other points. Further, these productions require time, commitment, personal investment and money. As mentioned earlier, it is also interesting to embark on such projects with researchers of various nationalities in order to feed the process of understanding that takes its bearings from diverse cultural points of view.

The sensations traversing the corporeality of the individual performer and the intercorporeality of dancers and audience are not given simply as an event in the world, but as Merleau-Ponty advances, as a space of re-creation and re-building of a world that is in constant transition, in a relationship to an ever-changing real (Merleau-Ponty 1945). This world is one of performance, of transformation and of an intersubjectivity or intercorporeality that integrates others. As a result of these findings, I can confirm that experimentation with the relationship of the moving body to technology, when considered from a somatic approach, can be the starting point for new sensory experiences.

#### **5.4 Summary**

Study # 2 and especially Study # 3 constituted a form of creative interdisciplinary research that integrated a dynamic of multi-sensory collaborative exploration. This research was born of a desire to create a work that could embrace the idea of interconnectedness through a strong relationship with the performative body. I also wanted to find a technology that could support this concept. Having identified tools for each stage of the research, I then went into the experimental process of assembling a

team of collaborators in order to conduct this new research. As my colleague Yacov Sharir notes, each new creative research project demands a different team with, 'a new set of skills with individuals demonstrating great enthusiasm about entering the collaborative process of preliminary research and discovery taking place in a digitally responsive dance studio and/or lab' (2012, p.178).

Based on the experiments and findings of this thesis, I am of the same opinion as Sharir when he remarks:

[...] the paths taken between research and production are how we discover whether or not the experimentation process and the technology involved actually produce the desired outcomes. This is why the collaborative lab-like process is so important; it makes space for and attends to the main challenges where the "gaps between research and production" are blurred' (2012, p.178).

In *New Visions in Performance: The Impact of Digital Technologies* (2004), authors Jorgen Callesen, Marika Kajo and Katrine Nilsen describe their collaborative project in the following terms:

The main challenges were to bridge the gaps between research and production, and between theory and practice, involving professionals on all levels. It should not be theoretical studies supported by simple prototypes and it should not be full blown productions with very limited opportunities for experimentation – but something in between (2004, p.69).

They continue their description of interdisciplinary collaborations remarking that:

So far this field of artistic practice is new territory where the borders between technology, dramaturgy and aesthetics are blurred and highly dependent on each other. To us it is a world of unexplored artistic possibilities, new concepts for physical interaction and theatrical communication, but the field is still very immature in relation to stage arts (2004, p.70).

The possibility of exploring new artistic practices and blurring the boundaries between new technologies, dance (or the performing arts in general) and sound in real-time was a challenge that the team of collaborators and I fully embraced. My interest in creating a space of hybridisation between the performing arts and technology as an integrated physicality demanded our engaging in a process characterised by much uncertainty. But during the various stages of research, it became clear to me (and for the team) that such a risk was acceptable. I was confident that the stages of creative research would lead us

to an important learning space where we could develop new skills and invest in new concepts. An area of sensitive knowledge opened up, and we tried to grasp it with all our capacity to perceive, even if that capacity was only partial.

This chapter highlighted the understanding - not only of the dancers, but also of the spectators, designers, and sound technicians - of a place of coexistence that is created in the meeting of the collective physical body and the collective sound body, culminating in the collective carnal body. This coexistence was implemented by strategies of sensory-perceptual destabilisation anchored in somatic experience: where a new learning environment is created; where priority is given to an approach of self-organising sensory autonomy; and where time for assimilation and integration is given through augmented rest. This place of coexistence is also conditional upon the ability to reach a state of emptiness, placing oneself in a state of personal risk - a state of fragility and openness - and accepting a dissolution of psychophysical borders. These factors allowed us to reach the state of intercorporeality sought after in my experiments - as much for the dancer as for the spectator.

This phenomenon, characterised by transitional and perpetual movement, was shown to create a state of instability that nevertheless carried a creative and evolutive potentiality. It was to regenerate the phenomenology of the performer's utterance and the phenomenology of spectatorial reception. From these observations, my findings show that the concept of body is changing and an ontological shift of the body occurs when it comes in contact with technology. According to the various accounts/testimonies integrated in this thesis, performative models of the collective physical and mediated body, and therefore, of the carnal body, point to the possibility of a new aesthetic, cognitive and communicational paradigm. The valuation of bodily and sensual knowledge is at the heart of my approach. The interaction of theorists of



different nationalities who made themselves available for such an immersive and destabilising experience served to accelerate awareness of emerging elements in this experimentation: awareness of a new genre which blended elements from somatic practices and technology. On this topic, Fraleigh's words are particularly inspiring: '[o]ur subjectivity is lived rather than known' (1987, p.43) [and because of] 'the subjective field, dance constantly transcends its material structure' (1987, p.49).

On the question of intercorporeality, and also echoing Merleau-Ponty's theories on our relationship with the world and the concept of flesh I was able to test in my research, Fraleigh also notes that, '[i]n existential phenomenology, the lived body is considered the center of the universe. Affirmation of bodily being is a potential value for both the dancer and the audience, because they share the dance – as body' (1987, p.55).

The lived body is a body of feeling, an interrelated system of life; and when it lives toward the world, it seeks an expressive body aesthetic, it manifests and does not without its life. Underlying its aesthetic surface, dance is an aesthetic projection of life. Because dance is an aesthetic (affectively vital) expression of the lived body, it is life engendering. The expressive body lives toward the world and others. [...] The aesthetically affective arises (in any dance) when the lived ground, the full body consciousness, is vitalized (1987, pp.55-56).

The communal context is established through an intersubjective field of consciousness that disclose my body as lived in relation to others, the field of awareness wherein I experience myself as seen, touched, understood, loved, or dispised. The intersubjective field is the field of communal interaction – my consciousness of my own body-of-action, of others body-of-action, and my awareness of what passes between us [...] –, in [the] context of my coexistence with others (1987, pp.57-58).

As Fraleigh remarks, the intersubjective field of dance is qualified by communion (Fraleigh 1987, p.59).

Following these observations and the conclusions presented, a final look at the aesthetic emerging from this research and what new knowledge it might offer will be identified and highlighted in the next chapter.

## 6. CHAPTER VI – CONCLUSION: AN EMERGING AESTHETIC FRAMEWORK

As I approach the end of this thesis, it is now necessary to draw conclusions from the intersection of research that was both practical and theoretical, while also taking into account the role of technological components that made this research possible. As I reflect on this journey's quest for a better understanding of the performative body in relation to technology, I hope that the work and research methodologies presented in this thesis will demonstrate the value of my work in the field. In the same spirit, I would like to stress the importance of my supervisor Roy Ascott in nurturing my process in many ways: through his mind as a researcher, his work, his pursuit of innovation, his pedagogy and his limitless creative spirit. His influence led me to invest in creative research as I had never done before by accepting me as a member of the unique and innovative program of the Planetary Collegium.

I present the findings of this thesis as an opening for further research in the performative arts through the bridges it establishes between somatic practices and technology, and also through the alternative vision of the performative body it proposes. My motivation and interest in exploring different ways of working served as the vital force and catalyser for organising all the project's elements. Experiments with and through bodily techniques in conjunction with technology would also not have been possible without the invaluable assistance of the team involved in the research process, along with investigations that have been conducted by other artists and researchers in the field of dance and technology and other disciplines.

The next sections present the aesthetic framework that emerged from this research. Constituting conclusions I came to, as well as in collaboration with the dancers, the members of the Observatory and the conceptor-technicians, they constitute elements of the research can be advanced as the new knowledge of this thesis. As these observations were made in a spirit of collaboration, I feel it appropriate to incorporate some elements of these conclusions in the form of accounts by Enrico Pitozzi who was particularly involved and influential throughout the entire research process.

### **6.1 Investment in the intelligence of the body**

The predominant role and revaluation of the body's intelligence in the project was a fundamental element of my research. The state of re-creation and re-construction of 'reality' it facilitates and encompasses in the field of dance and technology, was referenced with respect to Merleau-Ponty's (1945) and Berthoz's (1997) theories describing the dynamics of sensory-perceptual de-construction, re-organisation and re-construction. Rolnik's research (n.d. b) and theory concerning the sensory maps of the inner body currently being reconstructed as a result of a contemporary acceleration of the 'real' by technology, along with somatic practices which underscore the notion of sensory attunement, also tend to support Merleau-Ponty's, Berthoz's and my own conclusions.

The performative world is a privileged environment for experimentation because it gives one the chance to work with individuals such as dancers/performers whose phenomenological, sensory and perceptual knowledge of the body is extremely developed. This intelligence and heightened consciousness of the body and its spaces (I also include here the notion of space as it is shared with other individuals and the

environment) guided me in the development of a different type of relationship with 'the body itself', with others, and the world.

## **6.2 The body as a new aesthetic potential of the interface: an alternative vision of the body**

As a result of developing of this type of relationship through sensory awareness and a consideration of technology as a new environment that is lived on a physical level, I propose a shift in the notion of the interface wherein technology is no longer one of two poles of communication constituted by the language of the human body on the one hand and the algorithmic language lying at the heart of computer technology on the other, but rather a tool for the development of intersubjectivity and a modification of corporeality leading to intercorporeality. Here, the interval, as a latent space of transformation already present in varying degrees in the physical body, presents an active force. The bodily potentiality that is thus activated can be considered an interface in its own right: one that can be defended as complementing technological instruments.

This hypothesis is possible through proposing an alternative relationship between the body and technology: by investing in somatic principles which develop a new vision and understanding of the body and by considering technology as a means to activate new potentialities such as the expanded body and dilated time. With this approach, and as my research has shown, the physical body becomes the meeting place of corporality and corporeality (a place of 'coexistence') and the sound body (the mediated body), becomes a resonator of different sensory dimensions shaped as performative expressions.

My practical research has shown that the mediated body emerges when the physical body comes in contact with technology. A transformation of the body's interiority occurs as it becomes mediated - for example, under the influence of sound feedback in real-time that is registered sensorially as a penetrating vibration-issuing from a technological environment. From the construction of 'vibratory intersubjectivity', or intercorporeality, a new communicational paradigm emerges. This new paradigm is grounded in the activation of a corporal potentiality (Pitozzi 2008, 2010a) or the element of virtuality present in the body. According to my hypotheses and as my experimentation has shown, this corporal potentiality - from which intercorporeality issues - could be a new model of the interface.

### **6.3 Towards a theory of interfaced intercorporeality**

The paradigm of interfaced intercorporeality which follows on from these conclusions, refers to a powerful space of transformation. It is a concept that opens up dance research to the complexity of the body in a state of constant evolution and further, is a process that can be stimulated. For me, encouraging awareness and developing a methodology and tools for understanding these experiential processes are necessary for the evolution of new contemporary stages integrating technologies. I believe this paradigm, revealed in and by my experimentation, is dependent on a deeper aesthetic of transformation rooted in meaning and perception. Indeed, investment in the experiential, which is the very essence of movement itself, constitutes a form of transformation.

#### **6.4 Intercorporeality: the transition from representation to transformation**

This thesis outlined the steps taken in my research to arrive at such a state of transformation and analysed the elements by which it is conditioned. It notably argued that an alternative vision and experience of the body is nourished by a dissolution of the psychocorporal borders referred to by Suely Rolnik. Sondra Horton Fraleigh also remarks that the dancer has the ability to 'dissolve(s) its material objective nature as he makes it a part of his vital body' (1987, p.66). This modification involves a psycho-physical transformation observed by my collaborator Enrico Pitozzi (2009b) in the project's last study in particular. He calls this process a transition from a concept of representation to one of transformation. This transition resembles the passage from the culture of the object to the culture of flux and the transitional presented by Christine Buci-Glucksmann and also the strategies of sensory-perceptual destabilisation and coexistence I put in place that led to intersubjectivity.

According to my findings, this research charts new trajectories in the body by redesigning and recomposing internal sensory-perception. The methods I developed of listening to and learning from movement within the body also had to be externalised and transmitted to the spectator. According to Pitozzi (2009b), my work on the meeting of the collective physical and mediated body from which the carnal body emerges, provokes this exchange:

[i]n this context, one could say this process of working on the sound body doubles the empathic dimension between the performer and spectator. In other words, there is - on certain levels, a surprising empathic relationship between the performer and spectator. We are in a sort of "gestural cannibalism". The spectator watches and his perception finds a direct echo in his corporeality. The spatialised sound body in the hall immerses the spectator in the movement he is watching. This is the transformation that acts directly on a redefinition of his/her perceptual organisation (2009b).

Pitozzi notes the exacerbated and contaminating nature of intersubjectivity as the spatialised sound body immerses the spectator in the movement he/she is viewing. This staging initiates a phenomenon of transformation by acting directly on and redefining the perceptual organisation of the beholder. It is made possible by activating the 'dissolution of the psychocorporeal border' (Rolnik 'L'hybride de Lygia Clark' n.d. c) as seen in the development of the collective body and intersubjectivity leading to intercorporeality<sup>278</sup>.

The thesis also showed how a learning process which is performative, integrative and evolutive is implied in the transition from representation to transformation. This shift which is defended by Pitozzi and that I also share, is only possible, I believe, through the application of a strategy of risk-taking — what I have defined as the performative attitude, a state of fragility and emptiness (stillness) — experienced by both performers and spectators, and eventually by theorists and designers. I believe that the performative model proposed in this thesis - the collective physical body and collective sound body, which together form the collective carnal body - is a new performative form of interconnection and intercorporeality that reveals new aesthetic and communicational paradigms.

## **6.5 A multi-sensory and multimodal approach**

The perceptual reorganisation just referred to is also conditional on the establishment of a multi-sensory and multi-modal strategy. In my practical research, the relationship of interdependence between the collective physical and sound bodies was central in defining a meeting point capable of generating a space of transformation,

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<sup>278</sup> See Enrico Pitozzi's complete articles in Appendices 8.2.2, 8.2.4 8.2.5 and 8.2.6 in the original languages, French, English and Italian.

coexistence and discovery. It also enriched the multi-sensory aspect of my experimentation and thus, the multi-modal approach I engaged in to try to understand the levels of learning and perception required to discern what had been established.

I would like to share some of Pitozzi's thoughts on the multi-sensory dimension of this experimentation, as well as its multi-modal nature<sup>279</sup>. His comments and the findings of my research resonate with Merleau-Ponty's theories on the importance of the different sensory chiasms and their complementarity, both in the dynamics of discovering the world and also for my research:

It is here that the concept of the 'sonorous body' (...) takes on meaning as an audible expression and manifestation of the relationship that movement and perception create with sound. The sonorous body does not look to something that is simply anthropomorphic, the sound reconstruction of the shape of the body is not an issue: the investigation of the issue of the 'sonorous body' – a voluntarily ambiguous term – means to penetrate into the matter of sound and at the same time, of the body. It means to operate inside a fine limit where the shape of the body and sound are dissolved leaving a plot made up of different intensities that operate within it: we will therefore speak of a 'molecularised' form of the body and sound that resonate with each other. In other words, it involves working on a series of internal tensions that allow the shape of the body and of sound to be in constant mutation (original translation).

Pitozzi continues, noting that:

The sonorous body that transpires from this is something that comes from the real body, but is not a double of the body, but rather a manifestation of it, a new sensorial organisation of the perception developed from a technological integration. Technology becomes a way to interrogate the potential of the body in this work, to develop a kind of depth of perception of physical knowledge in order to act on it so as to modify the score of movement constantly (and its sound declination). It's evident that, in this case, we are beyond the pure instrumental use of technology. Technology becomes a way to investigate the body and expand its potential. Thanks to this particular use of technology – where technology becomes a way of thinking about the body – the choreographer works by integrating the sound dimension (original translation).

He elaborates on the topic, highlighting aspects that were developed in Study # 3:

By pushing this process of work connected to sound, it is in the *Meat Paradoxe* (2008/10) project that Isabelle Choinière developed a concrete and radical vision of the concept of the sonorous body. Thanks to the collaboration with the French composer Dominique Besson – among the figures who generated software of sound specialisation of movement called *Ring* – the choreographer developed an organised system around the capturing of the sound of five different dancers that – composing their movement in the space of action like a real sound mass – produced what we could define a collective resounding body, inside which the dancers could feel a shared sensorial experience, on the level of movement and on the level of sound production in real time. The elaboration of a soundscape responds to the mass-movement of the performer on stage, of an intense graininess that seems like a cloud of sound, a dense and articulated atmosphere of sound particles.

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<sup>279</sup> These texts were published by *DIGIMAG* in Italy (Pitozzi 2010b). The article can also be found in Appendix 8.2.6 in its original language, English.



In this sense the 'sonorous body' recalls a dimension of the body (or of movement) that originates in real time starting from the movement of the dancers on the scene and it is inscribed in a context of broadened choreography that the choreographer has been developing for some years now. The 'resounding body' is, in other words, an emanation, a dilation of the real body into the shape of sound; it is a vibration. The body becomes an eardrum, a resonator of sensorial dimensions that becomes scenic sonority. Therefore the body is almost molecularised, subdivided into elementary particles and recomposed in the shape of sound. Once again we are outside a purely logical formality of gazing at the body; the intensities – its articulation in movement-particles – are at the same time part of the choreographic and research work on sound thanks to the alteration and modification of different frequencies.

[...] Thanks to the placement of sound obtained via a device consisting of 8 speakers in the hall, the spectator is projected inside the body of the performer, and at the same time, is induced into a radical rethinking of his or her sensorial arrangement. In other words the spectator is very close to the body of the performer, in a proximity that induces him or her to a 'tactile vision' of their bodies in movement. The spectator is immersed in this living form. He or she is inside the form, in contact with the intensities that animate and sustain it: inside the flesh thanks to the sound that moves around him or her, that crosses and ploughs through the space. Therefore there are two forms that his or her perception is not used to and that must be redefined (original translation).

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Quotation have approval to be used

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In the light of these findings, consideration can also be given to how the experimentation involved in this thesis might open up paths for research in the future.

## **6.6 Somatics and technology: an opening for the future**

It is my hope that this thesis will have created a new space of reflection in the arena of research and debates surrounding new contemporary performative forms incorporating technologies. I believe that the integration of somatic knowledge in this field will help to generate new perceptual spaces and also provide a multicultural dynamic that goes beyond existing perceptual borders. Glenna Batson shares this vision.

As she notes:

[...] the origin, growth, and development of somatics did not evolve from western philosophy alone. Although coining the term 'somatics', Thomas Hanna was well-aware of the philosophical contribution of the ancient Far East. Both Moshe Feldenkrais and Bonnie Bainbridge-Cohen drew heavily from Asian disciplines in developing their work. Emilie Conrad D'aoud drew from Haitian and African cultures in developing her work in Continuum movement [...] This means, in other words, somatic studies must be viewed from the perspective of a multicultural world. [...] Second, we do not live by - and for ourselves alone, neither as personal histories independent of our relationships, nor in relationship to our physical geography - the earth where we live, where we come from, and all our interactions to the land. The whole body is "ecological", [...] the "whole body" is also "technological". We readily incorporate cell phones, iPods and other electronics into our body schema which impacts on the dancing body personally, somatically, socially, and aesthetically (Batson 2010).

How can somatic knowledge and experience expand the future scope of the body to embrace a reality that now integrates technology on a daily level? This thesis advances elements for understanding a future that will most certainly lead us to other modes of communication. These modes will be nourished by bodily knowledge and intercorporeality - between individuals of course, but also in a more comprehensive form that embraces all levels of reality the future is preparing: 'an interconnected world-body...with an energy created through the whole' (Fraleigh 1987, p.208). The performative world is a place of many revelations. It will be up to us to embrace it for all it has to teach us.

I can only hope that these findings will participate in bringing dance to participate in and serve as a tool for research in other domains in the goal of better understanding movement, cognitive processes, perception and changes to the physical body, given that dance is the ultimate artistic practice for developing 'an embodied access to systems of perception' (Lima 2013, p.27). The forms of the experiential, consciousness, intersensoriality and perception that emerge are not abstract concepts, but rather constitute an active practice of embodiment born of 'a continuous [and] recursive interaction with the environment' (Lima 2013, p.24). In this new relationship the moving body weaves with the technology its 'inherent capacity to move, perceive, act and express, the somatic, cross-modal, relational and creative characteristics of dance can be of significance for any such debate' (Davidson 2013, p.12). And for dance, the relationship with technology can enrich the performer's experience in many ways, as well as for spectators, through the creation of new performative, structural and relational forms and multi-sensory understandings of the body.

## 7. REFERENCES

Alloa, Emmanuel (2010) 'La phenomenologie comme science de l'homme sans l'homme', *In: Tijdschrift voor Filosofie*, 72/2010, viewed 10 July 2014, online: [http://eikones.ch/fileadmin/documents/ext/publication/497/497\\_large.pdf](http://eikones.ch/fileadmin/documents/ext/publication/497/497_large.pdf)

(de) Andrade, Oswaldo (1928) 'Manifesto Antropófago', viewed 30 June 2011, online in the English version n.d., 'Cannibal Manifesto': <http://feastofhateandfear.com/archives/andrade.html>

Ascott, Roy [1966-67] (2003) 'Behaviourist art and the Cybernetic Vision', *In: Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness*, Berkeley, Los Angeles and London: University of California Press, pp.109-156.

Banes, Sally (2002) *Terpsichore en baskets; post-modern dance*, Paris: Edition Chiron.

Barrat, Estelle & Bolt, Barbara (2010) *PaR: Approaches to Creative Arts Enquiry*, London: I.B. Tauris Publishers.

Batson, Glenna (2009) 'Somatic Studies and Dance', *In: International Association for Dance Medicine and Science (I.A.D.M.S.)*, viewed 15 October 2014, online: [http://c.yimcdn.com/sites/www.iadms.org/resource/resmgr/resource\\_papers/somatic\\_studies.pdf](http://c.yimcdn.com/sites/www.iadms.org/resource/resmgr/resource_papers/somatic_studies.pdf)

Batson, Glenna (2010) 'L'éducation somatique dans le milieu de la danse', *In: International Association for Dance Medicine and Science (I.A.D.M.S.)*, viewed 18 May 2014, online: <http://www.iadms.org/?302>

Benjamin, Walter [1931] (1979) 'On the Mimetic Faculty', *In: One-Way Street*, London: Verso, pp.240-257.

Bernard, Michel (1993) 'Sens et fiction ou les effets étranges des trois chiasmes sensoriels', *In: Nouvelles de danse*, no.17, October, *Dossier: À l'écoute du corps*, Bruxelles: Contredanse, pp.56-64.

Bernard, Michel (2001) *De la création chorégraphique*, France: Edition Centre national de la danse, Collection Recherches.

Bergson, Henri [1907] (1998; 2013) *L'évolution créatrice*, Paris: PUF.

Berthoz, Alain (1997) *Le sens du mouvement*, Paris: Editions Odile Jacob.

- Berthoz, Alain & Jorland, Gérard (2004) *L'empathie*, Paris: Editions Odile Jacob.
- Berthoz, Alain & Petit, Jean-Luc (2006) *Phénoménologie et physiologie de l'action*, Paris: Editions Odile Jacob.
- Besson, Dominique (2009) 'Le corps sonore, entre écriture chorégraphique et écriture musicale', article presented in *Journée d'informatique Musicale – JIM'09. 1-3 April 2009*, Grenoble, France.
- Blay, Michel (ed.) (2006) *Dictionnaire des concepts philosophiques*, Paris: Larousse - CNRS Editions, Collection-In Extenso.
- Blassnigg, Martha (2008) 'Ekphrasis and a Dynamic Musicism in Art: Reflections on Henri Bergson's Philosophy and Aby Warburg's Mnemosyne Atlas', In: Ascott/Bast/Fiel/Jahrmann/Schnell (eds.), *New Realities: Being Syncretic*, Austria: SpringerWienNewYork, pp. 42-45.
- Boisclair, Louise (2007) 'Isabelle Choinière de Corps Indice; Autour des Demoiselles d'Avignon', In: *Inter, art actuel, 'Espaces Sonore'*, Quebec, no. 98 (Winter), pp. 52-56.
- Bouchard, Audrey-Anne (2011) *La rencontre: Corps de chair et corps projeté*, Master 2 –Erasmus Mundus en Étude du spectacle vivant, University of Nice-Sophia Antipolis, France, 1 September 2011.
- Boucher, Marc (2005) 'La danse, ses contextes et ses récits', viewed 16 June 2008, online: <http://www.tangente.qc.ca/websichore/fra/DCR.htm>
- Boudrillard, Jean (1981) *Simulacres et simulation*, Paris: Galilée.
- Brett, Guy (2004) *Carnaval of perception; Selected Writings on Art Guy Brett*, London: Institute of international visual Art inIVA.
- Briginshaw, Valerie A. (2003) Narratable selves, multi-sensual perception and intercorporeal selves in *No Bodies Baby* – the implications for corporal literacy, conference presented at the Corporal Literacy symposium at the Multiliteracies Conference, University of Ghent, United Kingdom, September 2003.
- Brown, C., Niemetz, A., Medlin, M. & Scoones, R. (2013) 'Rest Sleep Wake: Soma-science scores for performing sleep', In: Davidson, Andréa & Rubidge, Sarah (eds.), *Journal of Dance & Somatic Practices*, vol.5, no.1, *Special issue:Somatics and technology*, Bristol: Intellect Journals Ltd., pp. 31-45.
- Bruneau, Monique (2009) 'Une recherche de reliance, féconde dans son hybridité', In: Gosselin, Pierre & Le Coguiec, Éric (eds.), *La recherche création; pour une*

*compréhension de la recherche en pratique artistique*, Québec: Presses de l'Université du Québec, pp.45-56.

Buci-Glucksmann, Christine (2001) *L'esthétique du temps au Japon. Du Zen au Virtuel*, Paris: Galilée.

Buci-Glucksmann, Christine (2003) 'Interview par Emanuele Quinz', In: Quinz, E (ed.), *Interfaces*, arts no. 3, Clermont-Ferrand: Anomalie, Digital, pp. 88-97.

Buissière, Evelyne (2005) '*Cours sur le corps*', Département de philosophie, Académie de Grenoble, France, viewed 14 April 2014, online: [http://www.ac-grenoble.fr/Philosophie/file/cours\\_corps\\_ebuissiere.pdf](http://www.ac-grenoble.fr/Philosophie/file/cours_corps_ebuissiere.pdf)

Bureau, Annick (1995) 'Conference Review: ISEA 95', In: *Leonardo Digital Reviews*, November 1995, Cambridge, Massachusetts: The MIT Press, p.80, viewed 20 December 1995, online: <http://www-mitpress.mit.edu/LEA/home.html>

Burnham, Jack [1968; 1969] (1973) 'Preface', In: *Beyond Modern Sculpture: The effects of science and technology on the sculpture of this century*, New York: George Braziller, pp. vii-x.

Burnham, Jack [1968; 1969] (1973) 'Introduction: Form and Indecision, Reification, Object and System', In: *Beyond Modern Sculpture: The effects of science and technology on the sculpture of this century*, New York: George Braziller, pp. 1-18.

(L.) Burns, Sophia (2009) 'La parole de l'artiste chercheur', In: Gosselin, Pierre & Le Coguiec, Éric (eds.), *La recherche création; pour une compréhension de la recherche en pratique artistique*, Québec: Presses de l'Université du Québec, pp.57-64.

Calvert, T.W., Chapman, J. & Patla, A. (1980) 'The integration of subjective and objective data in the animation of human...', In: *ACM SIGGRAPH Computer Graphics*, vol.14, issue 3, (July 1980). New York: ACM, pp.198-203.

Calvo-Merino, B., Glaser, D.E., Grèzes, J., Passingham, R.E. & Haggard, P. (2005) 'Action Observation and Acquired Motor Skills: An FMRI Study with Expert Dancers', *Cerebral Cortex*, vol.15, no.8. United Kingdom: Edition Oxford University Press, pp.1243-1249.

[Viewed 12 February 2010]

Capra, F. (1985) *Le tao de la physique*, Paris, France: Edition Sand.

Caraker, Cathie (2001) 'Le Body-Mind Centering en tant qu'approche de l'apprentissage en danse', In: *Nouvelles de Danse*, no. 46/47, *Incorporer*, Bruxelles: Contredanse, pp. 76-93.

Carver, Gavin & Beardon, Colin (2004) *New Visions in Performance: The Impact of Digital Technologie*, In: Gavin Carver & Colin Beardon (eds.), Lisse: Swets & Zeitlinger.

Cauquelin, Anne (2006) *Fréquenter les incorporels. Contribution à une théorie de l'art contemporain*, Paris: Edition Presses Universitaires de France.

Centre national de Ressources Textuelles et lexicales (2012), viewed 2 October 2012, online: <http://www.cnrtl.fr/etymologie/intégrer>

Choinière, Isabelle (1993) 'Réflexion d'une danseuse sur son travail avec la virtualité', In: *Inter Art Actuel*, no.58, (Autumn), Quebec: Edition Inter, pp. 25-26.

Choinière, Isabelle (2012) The interval as a new approach to interfaces: towards a cognitive and aesthetic paradigm of communication in the performing arts, conference presented at *Somatics and Technology Conference 2012*, University of Chichester, Chichester, United Kingdom, 23 June 2012.

Crémézie, S. (1997) *La signature de la danse contemporaine*, Paris: Edition Chiron.

Cole, J., Dupraz, N., & Gallagher, S. (2000) *Unity and Disunity in bodily awareness: phenomenology and neurosciences*, colloquium proceedings ASSC4, Bruxelles, 29 June-2 July 2000.

Corin, Florence (2001) 'Le sens du mouvement. Interview d'Alain Berthoz', In: *Nouvelles de danse*, no.48/49, Autumn-Winter, *Vu du corps*. Lisa Nelson. *Mouvement et perception*, Bruxelles: Contredanse, pp. 80-93.

Courtine, Jean-Jacques (2006) *Histoire du corps. 3. Les mutations du regard. Le XX<sup>e</sup> siècle*, In: Jean-Jacques Courtine (ed.), Paris: Editions du Seuil, Collection Points Histoires.

Darriulat, Jacques (2006) 'Esthétique', In: Blay, Michel (ed.) *Dictionnaire des concepts philosophiques*, France: Larousse CNRS Editions, pp.278-280.

Davidson, Andréa (2013) 'Somatics: An orchid in the land of technology', In: Davidson, Andréa & Rubidge, Sarah (eds.), *Journal of Dance & Somatic Practices*, vol.5, no.1, *Special issue: Somatics and technology*, Bristol: Intellect Journals Ltd., pp. 3-15.

Deleuze, Gilles & Guattari, Felix (1980) *Milles Plateaux; Capitalisme et schizophrénie 2*, Paris: Les éditions de Minuit, Collection Critique.

Derrida, Jean (2010) *La Naissance du corps (Plotin, Proclus, Damascius)*, Paris: Editions Galilée, Collection La philosophie en effet.

Després, Aurore (1998) *Travail des sensations dans la pratique de la danse contemporaine. Logique du geste esthétique*, Ph.D. thesis Nouveau Régime Esthétique, Sciences et Technologies des Arts (Option Danse), Paris: Université Paris VIII - Saint-Denis.

Dixon, Steve (2007) *Digital Performance: A History of New Media in Theater, Dance, Performance Art, and Installation*, Cambridge, Massachusetts: The MIT Press.

Dourthe, Pierre (1999) *Bellmer; Le principe de la perversion*, Paris: Jean-Pierre Faur Editeur.

Dupuy, Jean-Pierre (1994) *Aux origines des sciences cognitives*, Paris: Edition La Découverte.

East, Ali (2013) 'Sensuous interfaces – Dancing Anima in Aotearoa New Zealand', In: Davidson, Andréa & Rubidge, Sarah (eds.), *Journal of Dance & Somatic Practices*, vol.5, no.1, *Special issue: Somatics and technology*, Bristol: Intellect Journals Ltd., pp. 57-71.

Easton, Eleonore (2011) 'Rapport sur les méthodes utilisées en recherche artistique dans le domaine des arts de la scène', Suisse: La Manufacture – Haute école de théâtre de Suisse romande, viewed 18 May 2014, online: <http://www.hetsr.ch/upload/file/Rapport%20me%CC%81thodologie%20recherche%20artistique%20Leonore%20Easton.pdf>

Espenassier, Claude & Mayen, Gérard (2001) 'La méthode Feldenkrais dès la source effleurée du mouvement', In: *Nouvelles de Danse*, no. 46/47, *Incorporer*, Bruxelles: Contredanse, pp. 94-99.

Feldenkrais, Moshe [1972] (1977) *Awareness Through Movement*, New-York: Harpes & Roy Publishers.

Féral, Josette (2007) *Présence et effets de présence. L'interpénétration du virtuel et du réel: effets de présence et effets de réel*, conference presented at *Intermédialité, théâtralité, (re)-présentation et nouveaux médias/Intermediality, Theatricality, Performance, (Re)-presentation and the New Media*, Neuvième colloque international du C.R.I.- Centre de recherche sur l'intermédialité et du LANTISS, University of Montreal, Quebec, Canada, 26 May 2007. Viewed 17 August 2013, online: [http://cri.histart.umontreal.ca/cri/fr/cdoc/fiche\\_activite.asp?id=1687](http://cri.histart.umontreal.ca/cri/fr/cdoc/fiche_activite.asp?id=1687)

Figols, Florence (2000) *Parcours sensible d'un processus de composition chorégraphique [microforme]: sensation, improvisation, interprétation*, Mémoire de maîtrise en danse, Montreal: Université du Québec à Montréal.

Fontaine, G. (2004) *Les danses du temps; Recherches sur la notion de temps en danse contemporaine*, France: Edition Centre national de la danse, Collection Recherches.

Fortin, Sylvie (1996) 'L'éducation somatique et la formation en danse', In: *Nouvelles de danse*, no.28, Summer 1996, *Dossier: L'intelligence du corps, vol. 1, Les fondateurs*, Bruxelles, Belgique, pp. 15-30.

Fortin, Sylvie (2009) 'Apport possible de l'ethnographie et de l'autoethnographie pour la recherche en pratique artistique', In: Gosselin, Pierre & Le Coguic, Éric (eds.), *La recherche création; pour une compréhension de la recherche en pratique artistique*, Quebec: Presses de l'Université du Québec, pp.97-110.

Foucault, Michel (1975) *Surveiller et punir. Naissance de la prison*, Paris: Gallimard.

Foucault, Michel (1976) *Histoire de la sexualité*, vol. 1, *La volonté de savoir*, Paris: Gallimard.

Fraleigh, Sondra Horton [1987] (1996) *Dance and lived Body*, Pittsburgh: University of Pittsburgh Press.

Fraleigh, Sondra Horton (1998) 'A vulnerable glance: seeing dance through phenomenology', In: Alexandra Carter (ed.), *The Routledge Dance Studies Reader*, New York: Routledge, pp.135-143.

Gallese, Vittorio (n.d.) 'Commentary on 'Toward a Neuroscience of Empathy: Integrating Affective and Cognitive Perspectives'', pp. 146-151.

Gallese, Vittorio (2006) 'Embodied simulation: from mirror neuron systems to interpersonal relations', paper presented at *Novartis Foundation Symposium 278. Empathy and Fairness*, Wiley, Chichester, July 21, pp. 3-19.

Gallese, Vittorio & Freedberg, David (2007) 'Motion, emotion and empathy in esthetic experience', *TRENDS*, In: *Cognitive Sciences*, vol.11, no. 5, pp. 197-203.

Garcia, M.E., Plevin, M. & Macagno, P. (2008) *Mouvement créatif et danse. Méthode Gracia-Plevin*, Rome: Gremese International, Collection Petite Bibliothèque des Arts.

Gardner, Howard [1983] (2006) *Frame of Minds: The Theory of Multiple Intelligences*, United States: Edition Gardner.



Garner Jr., Stanton B. (1994) *Bodied Spaces: Phenomenology and Performance in Contemporary Drama*, Ithaca, New York: Cornell University Press.

Gil, José (2000) 'La danse, le corps, l'inconscient', *Terrain revue d'ethnologie de l'Europe*, no.35 *Danser*, France: Edition Revues.org, Centre pour l'édition électronique ouverte (CNRS, EHESS, UP, UAPV), viewed 12 February 2012, online: <http://terrain.revues.org/index1075.html>

Ginsburg, Carl (2006) 'Le Mouvement et l'esprit; une critique en forme d'essai', *In: Nouvelles de Danse*, no. 53, *Scientifiquement Danse; Quand la danse puise aux sciences et réciproquement*, Bruxelles: Contredanse.

Godard, Hubert (1993) 'Le déséquilibre fondateur (entretien avec Laurence Louppe)', *In: Art Press*, hors série, no. 13, *20 ans, l'histoire continue*, Paris: Art Press.

Godard, Hubert (1995) 'Le geste et la perception', *In: Marcelle Michel et Isabelle Ginot (eds.), La danse au XXe siècle*, Paris: Edition Bordas.

Goleman, Daniel [1995] (1997) *L'intelligence émotionnelle 1*, Paris: Editions Robert Laffont.

Gosselin, Pierre & Le Coguiec, Éric (2009) 'Introduction', *In: Gosselin, Pierre & Le Coguiec, Éric (eds.), La recherche création; pour une compréhension de la recherche en pratique artistique*, Quebec: Presses de l'Université du Québec, pp.1-6.

Gosselin, Pierre (2009) 'La recherche en pratique artistique: spécificité et paramètres pour le développement de méthodologies', *In: Gosselin, Pierre & Le Coguiec, Éric (eds.), La recherche création; pour une compréhension de la recherche en pratique artistique*, Quebec: Presses de l'Université du Québec, pp.21-32.

Gromala, Diane J. (2007) *Towards a Phenomenological Theory of the Visceral in the Interactive Arts*, Ph.D. thesis, Plymouth, United Kingdom: University of Plymouth. July version.

Gunji, M. (1985) 'L'esthétique de la danse japonaise', *In: Alternatives théâtrales*, no. 22-23, April-May 1985, Paris, p.12.

Hackney, Peggy (1998) *Making Connections. Total Body Integration Through Bartenieff Fundamentals*, Amsterdam: Gordon and Breach Publishers.

Heidegger, Martin [1954] (1958) 'La question de la technique', *In: Essais et conférences*, Paris: Editions Gallimard, Collection Tel., pp. 9-48.

Highwater, Jamake [1981] (1985) *The primal mind; Vision and Reality in Indian America*, New York/Scarborough, Ontario: Edition Meridian.

Ho, Mae-Wan (1993) *The Rainbow and the Worm: The Physics of Organisms*, Singapore, United States, United Kingdom: World Scientific Publishing Co.

Husserl, Edmund (2011) *Expérience et jugement*, France: P.U.F. - Presses Universitaires de France, Collection Epiméthée.

Jeffers, Carol S. (2009) 'On empathy: The mirror neuron system and Art Education', *In: International Journal of Education & the Arts*, vol.10, no.v15, pp. 1-17, viewed 12 February 2010, online: <http://www.ijea.org/v10n15/>

Kalem, Aylin (n.d.) 'La phénoménologie de Merleau-Ponty et le corps dansant', *In: Aylin Lakem blogspot*, p.2, viewed 2 August 2013, online: [www.bodig.org/texts/Merleau-pontyEtDanse.pdf](http://www.bodig.org/texts/Merleau-pontyEtDanse.pdf)

Kaye, Nick & Giannachi, Gabriella (2011) 'Acts of Presence: performance, Mediation, Virtual Reality', *In: TDR/The Drama Review*, no. 55, Cambridge/London: MIT Press, pp. 88-95.

(de) Kerckhove, D. (2014) 'The Point of Being', *In: de Kerckhove, Derrick & Miranda de Almeida, Cristina (eds.), The Point of Being*, United Kingdom: Cambridge Scholar Publishing.

Koestler, Arthur [1969] (1971) 'Beyond Atomism and Holism – The concept of the holon', *In: Koestler, Arthur & Smythies, J.R. (eds.), Beyond reductionism, new perspectives in the life of sciences: Proceedings of the Alpbach Symposium 1968*, Boston: Beacon Press, pp. 192-232.

Kozel, Susan (1997) '“The story is told as a history of the body”': Strategies of mimesis in the work of Irigaray and Bausch', *In: Desmond, Jane C. (ed.), Meaning in motion*, Dunhan, United States: Duke University Press, pp. 101-110.

Kozel, Susan (1998) 'Spacemaking: experiences of a virtual body', *In: Carter, Alexandra (ed.), The Routledge Dance Studies Reader*, New York: Routledge, pp. 81-88.

Kozel, Susan (2007) *Closer: Performance, Technologies, Phenomenology*, Cambridge, Massachusetts: The MIT Press.

Kuriyama, Shigehisa (1999) *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine*, Cambridge, Massachusetts: The MIT Press.

Kuypers, Patricia (2006) 'Des trous noirs; Un entretien avec Hubert Godard Bruxelles', *In: Nouvelles de Danse*, no. 53, *Scientifiquement Danse; Quand la danse puise aux sciences et réciproquement*, Bruxelles: Contredanse, pp. 56-75.

Kuypers, Patricia & Corin, Florence (2004) 'Entretien autour D'Isadora', *In: Nouvelles de Danse*, no. 52, *Interagir avec les technologies numériques*, Bruxelles: Contredanse, pp. 116-131.

Laban, R. Von (2007) *La maîtrise du mouvement*, France: Edition Actes sud.

Lacan, Jacques (2001) *Autres Écrits*, Paris: Editions du Seuil.

Laflamme, Yvonne (2009) 'La science de l'art/l'art de la science: une synergie propre à un nouvel esprit scientifique en recherche création', *In: Gosselin, Pierre & Le Coguiec, Éric (eds.), La recherche création; pour une compréhension de la recherche en pratique artistique*, Quebec: Presses de l'Université du Québec, pp.65-76.

Laruelle, François (1991) 'L'essence de la technique : entretien avec François Laruelle' *In: Art Press/H.S. no.12, Nouvelles technologies, un art sans modèles ?*, Paris: Art Press, p.127.

Laurier, Diane (2009) 'Vers une méthodologie de recherche en pratique artistique: quelques spécificités des recherches menées par des artistes chercheurs', *In: Gosselin, Pierre & Le Coguiec, Éric (eds.), La recherche création; pour une compréhension de la recherche en pratique artistique*, Quebec: Presses de l'Université du Québec, pp.77-94.

Le Coguiec, Éric (2009) 'Récit Méthodologique pour mener une autopoïétique', *In: Gosselin, Pierre & Le Coguiec, Éric (eds.), La recherche création; pour une compréhension de la recherche en pratique artistique*, Quebec: Presses de l'Université du Québec, pp.111-118.

Lehmann, Hans-Thies (2006) *Postdramatic Theater*, London and New York: Routledge.

Leroi-Gourhan, André [1943] (1971) *L'homme et la matière. Évolution et techniques*, Paris: Editions Albin Michel, Collection Sciences d'aujourd'hui, no. I.

Leroi-Gourhan, André [1945] (1973) *Milieu et techniques. Évolution et techniques*, Paris: Editions Albin Michel, Collection Sciences d'aujourd'hui, no. II.

Lepecki, A. (1998) 'Par le biais de la Présence: la composition dans l'avant-garde post-bauschienne', *In: Nouvelle de danse*, no.36/37, Bruxelles: Contredanse, pp.183-193.

Levin, D. M. (1983) 'Philosophies and dance', *In: Roger Copeland and Marshall Cohen (eds.), What is dance? Readings in Theory and Criticism*, New York: Oxford University Press, pp.85-94.

Lévy, Pierre (1998) *Qu'es-ce que le virtuel ?*, Paris: Editions La Découverte & Syros, Collection Poche.

(de) Lima, Cecilia (2013) 'Trans-meaning – Dance as an embodied technology of perception', In: Davidson, Andréa & Rubidge, Sarah (eds.), *Journal of Dance & Somatic Practices*, vol.5, no.1, *Special issue:Somatics and technology*, Bristol: Intellect Journals Ltd., pp. 17-30.

Livet, Anne (1978) *Contemporary Dance*, New York: Edition Abbeville Press Inc.

Loureiro, Angela & Challet-Haas, Jacqueline (2008) *Exercices fondamentaux de Bartenieff*, Oeuvres-et-Valsery, France: Editions Ressouvenances, Collections Pas à Pas.

Luz, Célia (1975) 'Lygia Clark na Sorbonne: corpo-a-corpo no desbloqueio para a vivência', In: *Vida das Artes 1*, no. 3 August 1975, Rio de Janeiro, Brazil, p. 64.

Martin, Andrée (1997) 'Coup d'oeil sur le XXI<sup>e</sup> siècle', In: *Le Devoir*, Montreal, Canada, June 3, p.B9.

Manning, Erin (2009) *Relationscapes*, Cambridge, Massachusetts: The MIT Press.

Massumi, Brian (2002) *Parables for the virtual. Movement, Affect, Sensation*, Durham & London: Duke university Press.

McLuhan, Marshall (1972) *Pour comprendre les media. Les prolongements technologiques de l'homme*, Montréal: Édition Hurtubise HMH, Collection H.

Merleau-Ponty, Maurice (1964a) *Le visible et l'invisible*, Paris: Éditions Gallimard, Collection Tel.

Merleau-Ponty, Maurice (1964b) *L'œil et l'esprit*, Paris: Éditions Gallimard, Collection Tel.

Merleau-Ponty, Maurice (1945) *Phénoménologie de la perception*, Paris: Édition Gallimard.

Michel, Marcelle, Ginot, Isabelle & Godard, Hubert (1995) *La Danse au XX<sup>e</sup> siècle*, Paris: Bordas.

Misi, Mirella & Pimentel, Ludmila (in press) 'Phenomenological and Post-phenomenological perspectives in mediadance', In: Douglas Rosemberg (ed.), *The Oxford Handbook of Screendance Studies*, Oxford: Oxford University Press. To be published in 2015.

Nelson, Robin (2013) *PaR in the Arts: Principles, Protocols, Pedagogies, Resistances*, Basingstoke: Palgrave.

(da) Nobrega, Carlos Augusto Moreira (2009) *Art and Technology; coherence, connectedness and the integrative field*, Ph.D. thesis, Plymouth, United Kingdom: University of Plymouth.

Ory, Pascal (2006) 'Le corps ordinaire', In: Courtine, Jean-Jacques (ed.), *Histoire du corps. 3. Les mutations du regard. Le XX<sup>e</sup> siècle*, Paris: Editions du Seuil, Collection Points Histoires, pp.133-168.

Osthoff, Simone (Revised on November 23, 2004) 'Lygia Clark and Hélio Oiticica: A Legacy of Interactivity and Participation for a Telematic Future', *Leonardo On-line*. p.8, viewed 22 May 2007, online: <http://mitpress2.mit.edu/e-journals/Leonardo/isast/spec.projects/osthoff/osthoff.htm>

Palmiéri, Christine (2005) 'Le corps écranique: Figure du sensible et lieu de partage', paper presented at the 73<sup>e</sup> Congrès de l'ACFAS. Chicoutimi, Quebec, viewed 18 June 2008, online: [www.acfas.ca](http://www.acfas.ca)

Paradiso, Joseph A. & Hu, Éric (1997) 'Expressive Footware for Computer-Augmented Dance Performance', *MIT Media Laboratory On-line*, Cambridge, United States, viewed 10 February 2010, online: <http://citeseer.ist.psu.edu/viewdoc/summary?doi=10.1.1.43.4554>  
[http://www.media.mit.edu/resenv/pubs/papers/97\\_10\\_Wearcon\\_Shoes.pdf](http://www.media.mit.edu/resenv/pubs/papers/97_10_Wearcon_Shoes.pdf)

Pavis, Patrice (2005) *L'analyse des spectacles: théâtre, mime, danse-théâtre, cinéma*, Paris: Editions Armand Colin.

Péijus, Anne (2008) 'Entre archéologie et récréation', In: *Périphéries*, Paris: Cairn.info, no.238, 2008/1.

Perrin, Julie (2006) 'Les corporéités dispersives du champ chorégraphique: Odile Duboc, Maria Donata d'Urso, Julie Nioche', In: H. Marchal et A. Simon (eds.), international colloquium proceedings *Projections: des organes hors du corps*, 13-14 October 2006, Université Paris 8 Saint-Denis, Paris, Publication on-line, [www.epistemocritique.org](http://www.epistemocritique.org), September 2008, p.101-107, viewed 9 June 2010, online: <http://www.epistemocritique.org/IMG/pdf/ProjectionsPerrin.pdf>

Pitozzi, Enrico (2008) 'Sismographies de la présence', paper presented at the *Journées d'études Effets de presence, effets du reel. June 6, 2008*. Montreal, Quebec, Canada.

Pitozzi, Enrico (2009a) 'Spazio stereoscopico per corpo sonoro. Conversazione con Isabelle Choinière', In: *Art'O*, no. 28, Estate 2009, Bologna, Italy, pp. 58-65.

Pitozzi, Enrico (2009b) 'Espace stéréoscopique pour corps sonore. Conversation avec Isabelle Choinière', In: *Archée-périodique électronique*, December 2009/Projets, section entretiens, Montreal, Quebec, Canada, online: <http://www.archee.qc.ca/>

Pitozzi, Enrico (2010a) 'Étendre la peau; Scène, perception, dispositifs technologiques', *In: Poissant, L. & Tremblay, P. (eds.), Ensemble ailleurs; Together elsewhere*, Quebec: Presses de l'Université du Québec, Collection Esthétique des arts médiatiques, pp. 321-340.

Pitozzi, Enrico (2010b) 'Corpo sonoro collettivo. Verso una tattilità uditiva / A collective resounding body. Aiming towards an auditory tactility', *In: Digimag*, no. 51, February, Milan, Italy.

Pitozzi, Enrico (ed.) (2012) 'On presence', *In: Culture Teatralli*, no. 21., Bologne: Université de Bologne.

Pitozzi, Enrico (in press) 'Bodysoundscape. Perception, movement and audiovisual in contemporary dance', *In: Yael Kaduri (ed.), The Oxford Handbook of Music, Sound and Image in the Fine Arts*, Oxford: Oxford University Press. To be published in 2015.

Poissant, Louise (2009) 'Préface', *In: Gosselin, Pierre & Le Coguiec, Éric (eds.), La recherche création; pour une compréhension de la recherche en pratique artistique*, Quebec: Presses de l'Université du Québec, pp.VII-X.

Quinz, Emanuele (2003a) 'Editorial', *In: Quinz, E (ed.), Interfaces*, no. 3, Clermont-Ferrand: Anomalie, Digital\_arts, pp. 8-9.

Quinz, Emanuele (2003b) 'Seuil de mutation. Notes sur la notion d'interface', *In: Quinz, E (ed.), Interfaces*, no. 3, Clermont-Ferrand: Anomalie, Digital\_arts, pp. 10-15.

Quinz, Emanuele & Menicacci, Armando (2005) 'Sclérose de la répétition. Conversation avec Hubert Godard', *In: Quant à la danse*, no.2, June 2005, France.

Quinz, Emanuele & Menicacci, Armando (2006) 'Étendre la perception? Biofeedback et transferts intermodaux en danse', *In: Nouvelles de Danse*, no. 53, *Scientifiquement Danse; Quand la danse puise aux sciences et réciproquement*, Bruxelles: Contredanse, pp. 76-96.

Rieusset-Lemarié, Isabelle (2006) 'À la recherche du corps perdu: au-delà des malentendus, le dialogue privilégié entre danse et arts numériques', *In: Davidson, Andréa (ed.), Bains numériques #1: Danse et nouvelles technologies. Enghiens les Bains/2005, Biennale internationale de la scène numérique*, Madrid: Editions Centre des arts d'Enghien-les-bains, pp.87-98.

Rizzolatti, G. (2005) 'Grasping the intentions of Others with One's Own Mirror Neuron System', United States: *PLoS Biology*, vol. 3, issue 3, e79, March 2005.

Robert, Paul (1990) *Petit Robert 1*, Paris: Edition Dictionnaires LE ROBERT.

Rolnik, Suely & Diserens, Corinne (org.) (2005) 'Lygia Clark, De l'oeuvre à l'événement. Nous sommes le moule. A vous de donner le souffle', *In: Catalogue Editor Musée des Beaux-arts*, Nantes, France, pp. 247-249.

Rolnik, Suely (2006) O outro faz parte da obra ou a obra faz parte do outro ?, conference presented at the Forum F.A.Q. – Perguntas Sobre Arte, Consciência e tecnologia, SESC. /Premio Sergio Motta de Arte e tecnologia, São Paulo, Brazil, 30 November 2006.

Rolnik, Suely (n.d. a) 'Anthropophagic Subjectivity', viewed 22 May 2007, online: <http://caosmose.net/suelyrolnik/textos.htm>,

Rolnik, Suely (n.d. b) 'Figures nouvelles du Chaos; les mutations de la subjectivité contemporaine', viewed 22 May 2007, online: <http://caosmose.net/suelyrolnik/textos.htm>.

Rolnik, Suely (n.d. c) 'L'hybride de Lygia Clark', viewed 22 May 2007, online: <http://caosmose.net/suelyrolnik/textos.htm>,

Ross, Christine (1993) 'Entretien avec Bill Viola au Musée d'Art contemporain de Montréal', *In: Parachute*, no. 70, April-May-June, p.18.

Rousier, Claire & Sebillotte, Laurent (2004) 'Pour une recherche en danse: de l'accès aux sources aux développements de méthodologies spécifiques', *In: Périphéries*, no. 44, 2004/2, Paris, France: Cairn.info.

Roux, Céline (2007) *Danse(s) performative(s): enjeux et développements dans le champ chorégraphique français 1993-2003*, Paris: L'Harmattan, Collection le corps en question.

Sarco-Thomas, Malaika (2013) 'Excitable tissue in motion capture practices: The improvising dancer as technogenetic imagist', *In: Davidson, Andréa & Rubidge, Sarah (eds.), Journal of Dance & Somatic Practices*, vol.5, no.1, *Special issue: Somatics and technology*, Bristol: Intellect Journals Ltd., pp. 81-93.

Sasso, R. & Villani, A. (2003) 'Le Vocabulaire de Gilles Deleuze. Vocabulaire de la philosophie contemporaine de la langue française', *In: Les Cahiers de Noesis*, no. 3, Spring, Paris: Centre de Recherches d'Histoire des Idées, pp.354-355, viewed 7 August 2013, online: <http://fr.scribd.com/doc/31968637/Villani-Sasso-Vocabulaire-de-Gilles-Deleuze>.

Scarpetta, Guy (1992) *Trisha Brown, Le festival d'automne de Michel Guy*, Paris: Editions du Regard.

Sharir, Yacov (2012) *Beyond the Electronic Connection. The Technologically Manufactured Cyber-Human and Its Physical Human Counterpart in Performance: A Theory Related to Convergence Identities*, Ph.D. thesis, Plymouth, United Kingdom: University of Plymouth.

Sheets-Johnstone, M. (1966) *The Phenomenology of Dance*, Madison: University of Wisconsin Press.

Sheets-Johnstone, M. (1980) *The Roots of Thinking*, Philadelphia: Temple University Press.

Simondon, Gilbert [1958; 1969; 1989] (2001) *Du mode d'existence des objets techniques*, Paris: Editions Aubier.

Smith, Hazel & Dean, Roger (2009) *Practice-led-Research, Research-led Practice in the Creative Arts*, Edinburgh: Edinburgh University Press.

Smythies, J.R. [1969] (1971) 'Aspects of Consciousness', In: Koestler, Arthur & Smythies, J.R. (eds.), *Beyond reductionism, new perspectives in the life of sciences: Proceedings of the Alpbach Symposium 1968*, Boston: Beacon Press, pp. 233-257.

Steeves, James B. (2004) *Imagining Bodies: Merleau-Ponty's Philosophy of Imagination*, Pittsburgh: Duquesne University Press.

Stoller, Paul (1997) *Sensuous Scholarship*, Philadelphia: University of Pennsylvania Press.

Suquet, Annie (2006) 'Scènes. Le corps dansant: un laboratoire de la perception', In: Courtine, Jean-Jacques (ed.), *Histoire du corps. 3. Les mutations du regard. Le XX<sup>e</sup> siècle*, Paris: Editions du Seuil, Collection Points Histoires, pp.407-430.

Toupin, Nicole (2001) 'L'analyse du Mouvement (A.D.M.). Une danse du regard: L'enseignement d'Hubert Godard', In: *Nouvelles de Danse*, no. 46/47, *Incorporer*, Bruxelles: Contredanse, pp. 100-113.

Tourangeau, Sylvie (1994) 'Le mois de la performance. La performance répétée', In: *La Centrale*, Montreal.

Varela, FJ. & Shear, J. (1999) 'First-person Methodologies: What, Why, How?', In: *Journal of Consciousness Studies*, vol.6, no. 2-3, United Kingdom: Imprint Academic, pp. 1-14. Viewed on 2 July 2014, online: <http://blog.lib.umn.edu/madamek/embodymethodologies/Relevant%20Articles/First%20Person%20methodologies.pdf>



Vigarello, Georges (2006) 'S'entraîner', In: Courtine, Jean-Jacques (ed.), *Histoire du corps. 3. Les mutations du regard. Le XX<sup>e</sup> siècle*, Paris: Editions du Seuil, Collection Points Histoires, pp.169-208.

Vincenot, M. (2000) Les territoires du corps dans les représentations de la danse', conference presented at the *Colloque Corporéité, décorporisation, virtualité: un état de la question du corps*, Université Paris 8, Grenoble, France, 8 December 2000.

Weissberg, Jean-Louis (1988) *Paysages Virtuels; image video, image de synthèse*, France: Editions Dis Voir, Séries Prise de vue, Collection directed by Danièle Rivière.

Yano, Hideyuki (1983) 'Dérapiage', In: *Théâtre/Public*, Paris, no.52/53, July 1983, p.75.

### **Links to certain mentioned artists**

Paul St-Jean, compagnie l'Écran humain

Viewed 26 June 2011,

online: [http://2plusinternational.com/index.php?option=com\\_content&view=article&id=72&Itemid=105&lang=fr](http://2plusinternational.com/index.php?option=com_content&view=article&id=72&Itemid=105&lang=fr)

Stelarc

Viewed 26 June 2011, online: <http://stelarc.org/?catID=20247>

Alwin Nikolais

Viewed 16 August 2008,

online: [http://www.pbs.org/wnet/americanmasters/database/nikolais\\_a.html](http://www.pbs.org/wnet/americanmasters/database/nikolais_a.html)

Jean-Marc Matos

Viewed 19 September 2008, online: <http://www.k-danse.net/>

Palindrome (Robert Wechler)

Viewed 19 September 2008, online: <http://www.palindrome.de/>

Troika Ranch

Viewed 19 September 2008, online: <http://www.troikaranch.org/technology.html>

Klaus Obermaier

Viewed 19 September 2008, online: <http://www.exile.at/ko/>

Kondition Pluriel

Viewed 19 September 2010, online: <http://www.konditionpluriel.org/>

## 8. APPENDICES

### 8.1 Appendix 1 – Author’s publications, conferences and seminar’s list

In this Appendix, a list of publications, conferences and seminars attended by the author is provided. These include a list of the Planetary Collegium’s ten-day composite sessions in which research updates were presented to fellow students and supervisors, whilst one-to-one tutorials were held each time with the main supervisory board comprised of Professor Roy Ascott, Professor Mike Phillips and Professor Michael Punt.

#### 8.1.1 Publications list

##### **Main publications - Book Chapters & Essays**

Choinière, Isabelle (in press) ‘The interval as a new approach to interfaces: toward a cognitive and aesthetic paradigm of communication in the performing arts’, *In: De KERCKHOVE, Derrick (ed.), Point of Being, U.K.: Cambridge Scholar Publishing*, Chapter 4. To be published in 2014.

CHOINIÈRE, Isabelle (2013) ‘For a methodology of transformation : at the crossing of the somatic and the technology, to become other...’, *In: Rubidge, Sarah & Davidson, Andréa (Eds.), Journal of Dance & Somatic Practices, Volume 5, Number 1, Bristol, U.K.: Intellect journals*, pp. 95-112. ISSN: 1757-1871

CHOINIÈRE, Isabelle (2009) ‘The Sonic Collective Body as a strategy to invest new design and new realities’, *In: Schroeder, Franziska (ed.), Performing Technology: User Content and the New Digital Media, UK: Cambridge Scholars Publishing*, Chapter 1, pp. 1-18, ISBN: 978-1-4438-1445-4

##### **Published Journal Papers: Printed and Electronic**

CHOINIÈRE, Isabelle (2009) ‘Imagination, Somatic and Technology : an answer to the future’, *In: Lim, Jeong Taeg (ed.), Journal for Transdisciplinary Knowledge Design*,

*Technology, Imagination, Futur*, vol.2, no.1, Seoul, **Korea: Institute of Media Arts Yonsei University**, pp. 83-104, ISBN: 9-772005-789006

CHOINIÈRE, Isabelle (2006) 'Eroticism, the sacred and philosophies of modern physics; the body as a catalyst of meaning', *In: Ascott, Roy (ed.), Technoethic Arts: A Journal of Speculative Research*, vol. 4, n° 1 (April). **U.K.: Intellect Ltd.** ISSN: 1477-965X

CHOINIÈRE, Isabelle (2006) 'Érotisme, sacré et philosophies de la physique moderne; le corps comme catalyseur de sens', *In: DPI Mobilité rigide / Sophie Le-Phat Ho*, no. 7 (October), <http://dpi.studioxx.org/demo/?q=fr/no/07/erotisme-sacre-et-philosophies-de-la-physique-moderne-le-corps-comme-catalyseur-du-sens>.

### Conferences Proceedings

CHOINIÈRE, Isabelle (2009) 'Regarding the Orgiastic as a Strategic Means to Reinvest Perceptions of Realities: the influence of syncretic thought acting as a motor of evolution in actual dance', actes de la IXième Conférence Internationale de recherche du Planetarium Collegium: Consciousness Reframed / New Realities: Being Syncretic, which took place at the **University of Applied Arts Vienna**, in **Vienna, Austria**, on July 3 to 5 2008, SpringerWienNewYork Edition, ISBN : 978-3-211-78890-S

CHOINIÈRE, Isabelle (2005) 'Eroticism, the sacred and philosophies of modern physics; the body as a catalyst of meaning', *In: ASCOTT, Roy (ed.) Altered States : Transformation of Perception, Place, and Performance*, Plymouth, **U.K.: Liquid Press**, v3.1. 22-24/07/2005. ISBN: 1-84102-147-4

#### 8.1.2 Conferences and lectures

##### Conferences by Isabelle Choinière

*To the modification of the corporality (corporalité) that generates corporeality (corporéité), a presentation fo the process based on strategies of destabilisation, METABODY research E.U. project, Dresden, Germany, November 15 2013 – Top speaker -.*

*(corpo)realities, Indiana University, Bloomington, Indiana, États-Unis, March 23 2013.*

*Somatic and technology, University of Chichester, Chichester, United Kingdom, June 23 2012 – Top speaker -.*

*Performativité et effets de présence*, Colloque de l'association canadienne de la recherche théâtrale / Congrès 2010 des sciences humaines, **University Concordia, Canada**, May 30th, 2010.

*Syncretic Transcodings*, Round table, **C.I.A.M.-Centre interuniversitaire des arts médiatiques, U.Q.A.M.-Université du Québec** à Montréal, Montreal, May 5th, 2010

*Two Thousand + NINE Symposium : User Content and Digital Media*, Sonic Arts Center (S.A.R.C.), **Queen's University Belfast, Belfast, Ireland**, May 16th, 2009.

*New realities: Being Syncretic*, The Planetarium Collegium IXth International Research Conference: Consciousness Reframed. **University of Applied Arts Vienna, Vienna, Austria**, July 3 to 5 2008.

*Ricerca e Futuro, arte, tecnologia e coscienza. Scenari dell'arte technoetica 2007*, Center for Contemporary Art Luigi Pecci (**University NABA, Milan, Italy**), Prato, Italy, December 9 to 12, 2007.

*Te-Dance Festival 2007 - Technologically Expanded Dance Project*, **University TU Lisbon**, Lisbon, Portugal, November 23, 2007.

*Reviewing The Future*, **The Planetary Collegium Summit, U.Q.A.M.-Université du Québec à Montréal / HEXAGRAM / C.I.A.M.**, Montreal, Canada, April 19 to 22, 2007.

*Forum F.A.Q. – Perguntas Sobre Arte, Consciência e tecnologia*, SESC. / Premio Sergio Motta de Arte e tecnologia, São Paulo, Brazil, November 30 to December 2, 2006.

*10<sup>th</sup> anniversary of Studio XX*, Montréal, Québec, October 6, 2006.

*Consciousness Reframed 8: Art & consciousness in the post-biological era; Immateriality*, **Plymouth University, United Kingdom**, July 21 to 23, 2006.

*Digital Arts Symposium*, **University of Arizona College of Fine Arts, Tucson, Arizona, United States of America**, April 7, 2006.

*Corps réels, corps virtuels - Les rencontres internationales danse et art numérique – Bains numériques # 1*, Enghien-les-Bains, France, October 14, 2005.

*Consciousness Reframed 7: Altered States – Transformation of Perception, Place and Performance*, **Plymouth University, United Kingdom**, July 22 to 24, 2005.

### 8.1.3 Research group attended

*Université du Québec à Montréal*. Research Collaborator. Research group *Performativité et effets de présence*. Canada. Since 2009.

#### 8.1.4 **Composite sessions attended and research updates**

- Research update # 9 : Vienna, Austria, July 2008
- Research update # 8 : Milan, Italy, December 2007
- Research update # 7 : Plymouth, United Kingdom, July 2007
- Research update # 6 : Montreal, Canada, April 2007
- Research update # 5 : São Paulo, Brasil, December 2006
- Research update # 4 : Plymouth, United Kingdom, July 2006
- Research update # 3 : Tucson, Arizona, United States of America, April 2006
- Research update # 2 : Plymouth, United Kingdom, July 2005
- Research update # 1 : Dallas, Texas, United States of America, April 2005

## 8.1.5 Participation of events and residencies list

### Grants awarded and Partners for the practical works

#### Research-creation phase #2 and #3. 2005-2010

##### Academic context

*Université du Québec à Montréal*. Principal Investigator. Canada. 2005-2010.

Partners. *C.I.A.M.* (Interuniversity center for media arts affiliated with U.Q.A.M.) - *HEXAGRAM U.Q.A.M.* - *C.I.R.M.M.T.*, McGill University – Dance Depart. *U.Q.A.M.* – Theater Depart. *U.Q.A.M.* – *L.A.N.T.I.S.S.* (Laboratory for Image, Sound and Scene New Technologies), Laval University.

Research topics. Sensorial and perception destabilization strategies through the investigation of the moving body linked to technology. Cognitive, aesthetic and expressive-communicative paradigm in the performing arts. Empathy. Multimodality. Synesthesia.

Technological development. Real time interface for sonic treatment and spatialization for the *RING* software. Microvibration floor prototype interface. Contact carpet prototype interface.

Results has been shown. University Paris 8 at *le Centre des arts d'Enghien-les-Bains*. France. November 2006. *Université du Québec à Montréal*. Canada. Summer 2006. McGill University, Colloquium on intermediality; theme: electricity, Grand Library Auditorium. Canada. March 2006. Laval University. Summer 2005.

Grants 400 000\$. *Le centre des arts d'Enghien-les-Bains-France*, *ArtPassionata-France*, *C.I.A.M./U.Q.A.M.-Canada*, *C.D.C.-Grenoble*, *D.C.A.-France*, *Avatar-Quebec*, *Conseil des arts et des lettres du Québec*, *Conseil des arts de Montréal*, *Conseil des arts du Canada*, *Patrimoine Canada*, *Cirque du Soleil*, *O.F.Q.J.-Québec*, *Ambassade du Canada en France*, *Délégation générale du Québec à Paris*.

##### Artistic context

##### **Main residency**

- *Avatar. Quebec. Canada. August-September 2010.*
- *Micadanse, Studio de la danse de la ville de Paris, DCA-Studio Philippe Decouflé, CDC Grenoble. France. April-May 2008.*
- *Le Tambour qui parle. Paris. December 2007.*
- *Le centre des arts d'Enghien-les-Bains. France. October-November 2006.*

- Studio XX. Canada. Summer-Fall 2006.
- T.O.H.U.-*Cité des Arts du Cirque*. Canada. 2005.

### **Performances**

- *OFF OFFICIEL du Festival TransAmériques, Tangente*, Montreal, Quebec, 3 to 5 June 2008 (phase #3)
- *Le Pacific Center for Choreographic Development*, Grenoble, France, May 3, 2008 (phase #3)
- *Centre des arts, Enghien-les-Bains*, France, November 16 -17, 2006 (phase # 2)
- *Les rencontres internationales danse et arts numériques – Bains numériques # 1*, Enghien-les-Bains, France, October 14 2005 (phase # 1)

**8.2 Appendix 2** – Research information on the members of 'the Observatory' and articles produced by the members of 'the Observatory' and Dominique Besson's during the doctoral period

8.2.1 *Louise Boisclair* (2007) 'Isabelle Choinière de Corps Indice; Autour des Demoiselles d'Avignon'.

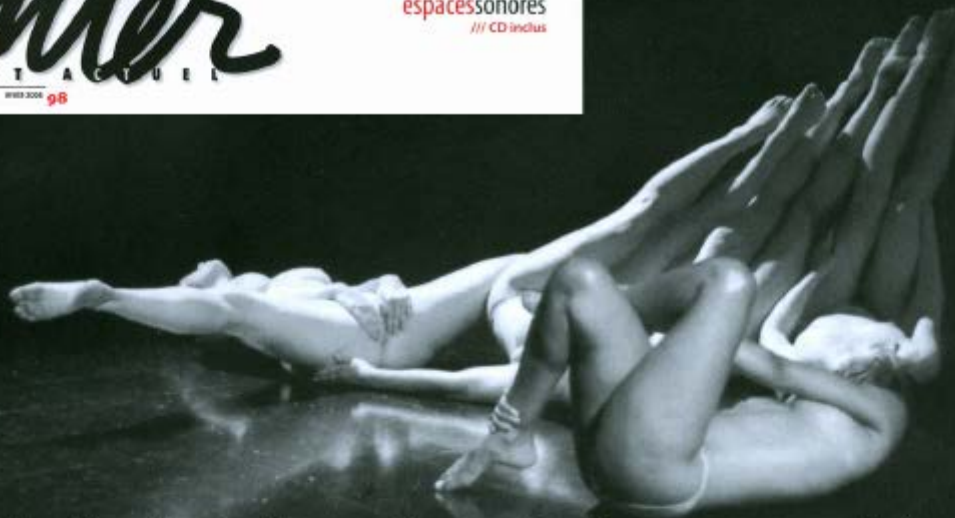
Boisclair, Louise (2007) 'Isabelle Choinière de Corps Indice; Autour des Demoiselles d'Avignon', *In: Inter, art actuel, 'Espaces Sonore'*, Quebec, no. 98 (winter), pp. 52-56.

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Article have approval to be used

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## Isabelle Choinière de *Corps Indice* Autour des demoiselles d'Avignon

> Les cinq danseuses : Isabelle Choinière, Rosalie Fanelart, Marie-Josée Boulanger, Sophie Goulet Deltile, Soraida Caron, *Corps Indice* (nouvelle création - phase 1). Photos : Hugo Lafrance, 2005.

PAR LOUISE BOISCLAIR

Cet article explore la notion de corps élargi sonore, son rapport avec l'évolution de la danse, le dispositif techno-sonore intégré, la notion pivot de l'orgiaque, l'apport de la déhiérarchisation, la zone de prélangage évoquée et son impact sur la perception. Puis, je propose l'expression *trans(é)danse* pour nommer ce genre singulier après avoir rappelé les diverses esthétiques du corps auxquelles s'ajoute celle de corps larvaire. Enfin, je questionne ce qu'apporte le corps élargi, sonore et larvaire à la compréhension de l'univers numérique.

### Corps élargi sonore

Dans ce nouvel univers corporel et sonore, il ne faut pas chercher des courses éfrénées de ballerines élancées sur leurs pointes ni des sauts brusques et vertigineux dans le vide à la Édouard Lock. *Autour des demoiselles d'Avignon* n'est aucunement le prolongement de *La démence des anges*, bien que la technique corporelle ancrée dans le bassin s'y retrouve. Alors que *La démence des anges* croisait et réunissait, par la conjonction de la vidéo et de la télématique, deux corps dansant dans deux lieux distincts, *Autour des demoiselles d'Avignon* réunit cinq corps dansant dans un même espace circulaire, sans projection vidéo, mais avec une amplification sonore. De « corps projeté, corps sonore, corps théâtralisé », l'on passe à un corps élargi sonore, mu par l'élasticité et l'électricité des corps connectés, en contact et en mouvement. On passe également à une scénographie où la technologie est beaucoup moins dominante, bien qu'elle nécessite un dispositif numérique sophistiqué pour capter, transformer et relayer le son.

Les spectateurs assistent plutôt à la création d'un corps élargi sonore qui façonne une nouvelle créature, un corps larvaire, comme le propose Isabelle Choinière. De fait, la chorégraphe s'est d'abord inspirée du concept de corps collectif, originaire du Brésil et développé par l'artiste brésilienne Lygia Clark, danseuse et thérapeute par la suite. Spécialiste du travail de Lygia Clark, la critique culturelle et psychanalyste Suelly Rolnik explique le corps collectif comme un « corps vibratoire », ce qu'Isabelle Choinière appelle à son tour « corps résonnant ». Et pour la chorégraphe qui intègre la télématique à ses créations, « il est intéressant également de noter que cette idée de "corps résonnant" construisant un corps fusionnel collectif trouve des parentés dans les concepts de l'art télématique avec les idées de création et d'identité collective et planétaire ».

### Évolution de la danse

Cette chorégraphie d'un corps élargi doublé d'un corps sonore constitue volontairement ou non de multiples clins d'œil à l'évolution de la danse depuis plus d'un siècle où l'on retrouve des parentés supplémentaires. Bien qu'il ait fallu attendre l'avènement du numérique pour connecter les diverses technologies auparavant isolées, plusieurs affranchissements ont révolutionné la danse classique sur le plan corporel et sur le plan technologique<sup>6</sup>. Déjà en 1882, Loie Fuller, pionnière américaine de la danse moderne, intègre l'éclairage électrique au mouvement. À la même époque, Isadora Duncan danse corps et pieds nus, et délaisse la musique pour puiser dans sa propre musicalité interne. Martha Graham recherche « l'authenticité via l'inconscient et le primitif, avec la certitude que "le mouvement ne ment

LOUISE BOISCLAIR est artiste multidisciplinaire, auteure et chercheuse. Détentrice d'une maîtrise en études littéraires, après un perfectionnement en arts visuels et médiatiques, elle a complété quatre séminaires de doctorat en études et pratiques des arts, en sociologie et en études littéraires à l'UQAM. Elle pratique la peinture gestuelle, le mandala et le tai-chi. Ses recherches portent sur les nouvelles formes narratives et l'impact du numérique sur le processus de création. Elle travaille à la phase finale d'un intercompte numérique sur Internet. En plus de diriger les ateliers *La cheval de Troie*, elle signe des articles dans le domaine des arts.

Parallèlement à la diffusion de *La démente des anges*<sup>1</sup> et à ses conférences à travers le monde sur sa recherche-création, Isabelle Choinière, directrice de la compagnie de danse Corps Indice, a entrepris le développement d'une nouvelle performance. Nous la nommerons *Autour des demoiselles d'Avignon* puisque le titre définitif n'est pas arrêté. La diffusion a débuté, en phase 1, au Centre des arts d'Enghien-les-Bains en France en octobre 2005 et, en phase 2, à l'espace de production Hexagram le 6 octobre 2006 à Montréal<sup>2</sup>. Cet automne 2007, Isabelle Choinière entreprend à Montréal une nouvelle phase d'approfondissement de la chorégraphie, avec les danseuses en studio, et de développement de la composition sonore, avec les concepteurs techniciens. Une diffusion est prévue durant l'hiver 2008.

#### Autour des demoiselles d'Avignon

Regroupées comme *Les demoiselles d'Avignon*<sup>3</sup>, le célèbre tableau de Pablo Picasso, cinq danseuses s'animent sans jamais décoller du sol. Leurs corps s'attirent et s'éloignent, construisent et déconstruisent une forme tout en restant en contact les uns avec les autres durant toute la performance. Les danseuses sont munies chacune d'un micro et, à certains endroits sous le tapis, des senseurs captent la vibration causée par leurs déplacements. Un dispositif numérique saisit le souffle et les vibrations, les transforme en trame sonore et les diffuse dans l'environnement du spectacle. Ainsi les danseuses sont propulsées autant par leur contact mutuel que par le retour sonore. Pour varier son point de vue, le spectateur est invité à déambuler autour de la scène.



- > 1 Pablo Picasso, *Les demoiselles d'Avignon*, 1907.
- > 2 Isabelle Choinière, *La démente des anges*, 2005.

jamais<sup>4</sup> ». Quant à Merce Cunningham, « dès les années cinquante, il renonce à la théâtralité et rompt les liens traditionnels unissant la danse à la musique »<sup>5</sup>. Dans les années soixante, les travaux des danseuses Yvonne Rainer et Trisha Brown ainsi que d'artistes visuels dont Robert Rauschenberg, présentés à la Judson Church, « partagent tous, non pas un style, mais un principe, qui consiste à remettre en question les pratiques traditionnelles de la danse moderne et professionnelle »<sup>6</sup>. L'intérêt pour le corps est repérable « dans les nouvelles formes artistiques éclatées : Happening, Action Art, Body Art et Performance Art »<sup>7</sup>.

Au début des années soixante-dix, l'invention de la danse Contact Improvisation par Steve Paxton marque un tournant important : « L'improvisateur prend comme repère les sensations tactiles, kinesthésiques et proprioceptives plutôt que le geste répété et mémorisé ou des points fixes dans l'espace »<sup>8</sup>. Le buto<sup>9</sup> japonais exerce une grande influence en danse et au théâtre dans les années quatre-vingt. Les pratiques somatiques Alexander, Bartenieff, Body-Mind Centering, Feldenkrais, Trager et les arts martiaux révèlent une nouvelle conscience de la posture, du mouvement et du déplacement du corps en fonction de la gravité et de l'espace. Les chorégraphes privilégient les thématiques du corps tout en adoptant une approche interdisciplinaire et en intégrant les nouvelles technologies. « La chorégraphie actuelle révèle un goût profond pour le bombardement sensoriel hétéroclite, un certain goût aussi pour le bricolage signifiant<sup>10</sup> », écrit Michèle Febvre.

#### Le dispositif technosonore

Avec la performance *Autour des demoiselles d'Avignon*, nous pénétrons dans un univers artistique, technologique et culturel qui croise l'ancien et le contemporain, l'archaïque et l'actuel. Le dispositif technosonore, qui donne naissance



→ Isabelle Choinière, *Le mur de l'orgie*, 1999.



au corps sonore, se compose de trois couches superposées. Le souffle des cinq danseuses capté par un micro constitue la première couche de proprioception sonore. De façon simultanée, le mouvement des danseuses en constitue la deuxième couche. Et la troisième réfère à un système de spatialisation sonore lié aux mouvements des danseuses qui sont lus par un tapis sonore. Le tout est relié à un ordinateur qui agence la captation des différentes sources sonores et les redistribue amplifiées par des haut-parleurs.

Ce retour sonore devient extéroceptif. Le corps sonore élargi provient du souffle capté, conjugué à la traduction du mouvement en son. Par sa diffusion, il anime à son tour le mouvement du corps élargi constitué des cinq corps dansant dans un aller-retour continu. Ici le souffle organique sert de source à la retransmission électroacoustique, un nouvel alliage sonocorporel.

#### L'orgiasque

En plus des références les plus évidentes au cubisme, à la danse contact, à la performance<sup>14</sup>, à la synesthésie<sup>15</sup>, aux arts martiaux et à l'apport du numérique, cette esthétique singulière de la danse s'apparente à l'orgiasque, une notion clé de l'œuvre. À l'origine, les orgies étaient des fêtes solennelles en l'honneur de Dionysos à Athènes, de Bacchus à Rome. Les danseuses pratiquement nues, le corps bien huilé, se touchent, se caressent et se collent en prenant des poses très sensuelles.

Bien entendu, cette notion de l'orgiasque porte à confusion. Certains questionneront son lien avec la sexualité, voire la pornographie. Toutes les connotations sont possibles, mais pour la chorégraphe l'orgiasque n'est pas synonyme du sexuel. La dimension sexuelle n'est pas incluse dans son travail mais plutôt les dimensions de la sensualité et de tous les ressentis qui accompagnent le mouvement du corps et sa relation avec le corps voisin et le corps collectif en mouvement. La fonction sexuelle est donc inactive dans le sens de la fonction orgasmique liée à l'organe. Il faut davantage associer l'orgiasque à l'atteinte d'un état second

où les nouvelles sensations et les nouveaux échanges énergétiques provoquent une nouvelle plasticité de la sensibilité de chacune des danseuses et de son état d'être.

Isabelle Choinière le précise : « L'orgiasque du corps réel est créé par ce corps collectif et par la proprioception, tandis que l'orgiasque médiatique s'organise avec l'extéroception. » En d'autres mots, le mouvement de contact entre les cinq corps qui se touchent, s'attirent et s'éloignent, crée une représentation et une expérience du corps collectif. Cela suscite de multiples sensations internes proprioceptives dans l'expérimentation de ce nouveau schéma corporel élargi. De plus, l'apport du retour du son médiatique augmente les effets proprioceptifs ressentis dont la source est cette fois l'extéroception, la perception du son extérieur, qui à son tour propulse les corps individuels et le corps collectif tout en modifiant le ressenti proprioceptif.

« Également, j'introduis les pratiques somatiques via l'extéroception créée par les technologies telles que je les utilise, c'est-à-dire comment l'extéroception renouvelle l'expérience sensorielle et perceptuelle. Les pratiques somatiques sont des pratiques centrées sur la prise de conscience du corps en mouvement. Ce sont des apprentissages des processus d'interaction synergique entre la conscience, le mouvement et l'environnement. Elles sont l'étude expérimentelle de la corporalité<sup>16</sup>. »

#### La déhiérarchisation

Graduellement se croisent le mouvement du corps, la projection du souffle et leurs captation, transformation et rediffusion médiatiques, de l'intérieur à l'extérieur et vice versa. À l'instar du cubisme, les angles se démultiplient, les apports sonores se chevauchent et donnent lieu à une réorganisation constante : « Deux artistes investissant l'érotisme m'ont inspirée, soit Picasso et Hans Bellmer, car ce sont des artistes qui ont investi la déhiérarchisation du corps. Cette déhiérarchisation a été à la source de la création de la gestuelle et de cette nouvelle création qui oscille entre le corps organisé et le corps désorganisé. Le travail sur le bassin souvent initiateur du mouvement a amorcé ce travail sur la déhiérarchisation du corps<sup>17</sup>. »

Selon la chorégraphe, le thème de l'orgie et les orientations plus horizontale, diagonale et circulaire de la gestuelle résultent en une brisure des codes établis en danse mais aussi des repères inscrits dans le corps même. Ce travail mène à une zone où n'existe pas encore le langage et où le mouvement émerge du souffle de vie. Cette énergie vitale propulse le corps et l'âme vers un état second. La théoricienne française Sylvie Crémézi a exploré cette conception du sens qui naît du corps : « Pour Piaget, en effet, l'infrastructure de la communication signifiante s'acquiert d'abord avec l'échopraxie, ou jeu de gestes par lesquels l'adulte et l'enfant s'imitent mutuellement. Didier Anzieu explique, de cette manière, que la continuité sémiotique du geste corporel achève alors de s'établir. Par conséquent, la fonction sémiotique apparaît d'abord dans l'histoire individuelle à un niveau pré-linguistique<sup>18</sup>. » Le sens naît donc dans un espace où n'existe pas encore cette structuration propre au langage parlé.

#### En amont du langage

Pour la chorégraphe, l'orgiasque stimule « la déhiérarchisation du corps, des sens et de ce fait même d'une autre organisation du corps et des sens. C'est un état d'auto-organisation ; le corps s'auto-organise par la sensation elle-même ». Cette conception s'éloigne donc des codes préétablis, des formes classiques, pour atteindre par la déhiérarchisation une zone où la perception et la proprioception évoluent hors des sentiers battus, hors des repères traditionnels. Et cette zone de risque amène

les danseuses à se dépasser, à dépasser leurs limites; pour investir un nouveau fonctionnement du corps en mouvement. À se connecter avec ce que chaque danseuse a de plus intime, d'instinctif, pour se mouvoir, tout en captant l'énergie du contact de l'autre. Isabelle Choinière dit « vouloir créer une danse, un modèle chorégraphique qui réponde à notre cosmologie actuelle qui, elle, a rompu avec la perspective (rapport linéaire au temps) et qui ramène, selon Weissberg, à une multiplicité des points de vue initiée entre autres par le travail de Picasso, poursuivie autrement par Hans Bellmer et utilisée ensuite pour la visualisation d'objet 3D dans l'espace de l'ordinateur »<sup>19</sup>.

Ici nous sommes loin du ballet centré et mesuré du temps de Kepler et de Gallée, loin également de la verticalité en lien avec le divin imposée par le modèle du ballet et qui a été brisée par l'avènement de la contre-culture des années soixante. Isabelle Choinière reconnaît l'apport du postmodernisme de la chorégraphe américaine Trisha Brown qui a incorporé l'horizontalité sous l'influence des pratiques orientales. Elle s'alimente également à un art martial dansé brésilien, la capoeira régionale : « C'est un art martial dansé qui sort complètement du rapport linéaire de la perspective. [...] L'accent est donc mis sur le mouvement initié par le bassin pour distancier le travail des danseuses des codes et de la perspective traditionnels et toute cette déhiérarchisation modifiera en profondeur notre perception et notre vision du monde »<sup>20</sup>.

#### Modification de la perception

Dans la foulée de Hubert Godard, spécialiste en analyse du mouvement, Isabelle Choinière explique comment ce changement de schéma postural provoque un changement au plan de la perception : « Changer de schéma postural changera la perception. La structure chorégraphique suivra les mêmes traces que le travail gestuel lié au bassin – le corps complètement en trois dimensions. La structure chorégraphique – le quintet au complet par moment – se verra redéfinie dans sa relation globale, et elle suivra les mêmes inversions-translations que le corps solo a pu subir. En d'autres mots, la masse des cinq danseuses se percevra dans l'espace comme un ensemble qui se transforme en trois dimensions »<sup>21</sup>. » On peut également comprendre pourquoi il prend environ trois mois aux nouveaux danseurs pour adapter leur corps à ce nouveau travail par un apprentissage qui demande de désapprendre les réflexes de danse traditionnelle aux repères bien définis. Tout cela amène une nouvelle expérience de la danse tant dans son ressenti corporel que dans ses structures chorégraphique, technologique et théorique.

#### Les diverses esthétiques du corps

Ce corps élargi, sonore, larvaire, s'ajoute aux différents courants esthétiques prônés par les chorégraphes. Rappelons « le corps rebelle (Duncan), le corps barbare (Nijinski), le corps mystique (St-Denis), le corps dynamique (Humphrey), le corps chthonien (Wigman), le corps pulsionnel (Graham), le corps articulé (Cunningham), le corps tactile (Paxton), le corps fluide (Brown) »<sup>22</sup>. Cette tendance à utiliser la qualité dominante du corps comme instrument de représentation se retrouve dans tous les arts, notamment l'art vidéographique. Comme l'écrit Christine Palmiéri, « le corps sacralisé (Ulrike Rosenbach, Sophie Calle, Bill Viola), désacralisé (Mac Carthy, Peter Land, Gillian Wearing), instrumentalisé (Matthew Barney, Shirin Neshat, Christine Palmiéri), devient un lieu intersubjectif d'échange identitaire mouvant et se muant dans les strates d'une fable collective »<sup>23</sup>.

Dans cet univers de l'image et de la représentation, le corps devient un membre actif ou passif de l'œuvre d'art qu'il anime ou façonne. Le corps respire, inspire, expire ; il

s'exprime, s'imprime et déprime. Il ressent, bouge, fuit ; il s'enlise, se contracte et s'étire. Corps physique, corps musical, corps social, corps de l'œuvre, rien n'y échappe. Toutes les positions du corps, tous ses états, ses dynamiques et ses dimensions sont à l'œuvre. Du nanisme au gigantisme, de la beauté à la monstruosité, de l'athlétisme au handicap, du morcellement au remembrement, du larvaire à la métamorphose.

#### Le corps larvaire

Le qualificatif de larvaire retenu par Isabelle Choinière questionne. Corps élargi sonore, mais corps *larvaire* dans le sens d'« embryonnaire ». Ce qualificatif ne s'adresse pas aux corps dansants individuels plutôt énergétiques et malléables. Il s'adresse plutôt à ce corps élargi, sonore, à l'état naissant, inchoatif, inachevé, toujours en quête de développement et d'équilibre. Ce corps larvaire, créature d'un corps élargi sonore, représente un état de gestation fluide en mouvance perpétuelle telle la boule de mercure qui se décompose, se fragmente et s'assemble à nouveau, en fait se *re-dé-compose*, une fois expulsée du thermomètre brisé. Diverses métaphores peuvent alimenter cette notion de corps larvaire selon le point de vue d'où on la regarde.

Comme le résume Suely Rolnik, « [c]'est à travers la création que l'artiste fait face au malaise de la mort de son moi actuel, causée par la pression de ses moi larvaires qui s'agitent en son corps. Cet affrontement, l'artiste le réalise



> Bellmer, Céphalopode, 1940.



dans la matérialité de son travail : là s'inscrivent les marques de cette rencontre singulière avec le festin tragique »<sup>14</sup>. Dans un tout autre ordre d'idées, Michaël La Chance propose que, dans la foulée de son analyse de l'univers *Matrix*, « le corps larvaire ne serait qu'une métaphore, une image de notre esprit, par laquelle celui-ci peut envisager à quel point il est diminué et inachevé en tant qu'esprit, n'est qu'un avorton de la spiritualité »<sup>15</sup>.

#### La trans(e)danse

Pour inscrire cette performance dans un nouveau genre, je propose l'expression *trans(e)danse* composée de la contraction de mots clés essentiels dans l'esthétique d'Isabelle Choinière : *trans*, danse et (e) pour énergie, électronique, élasticité et électricité. *Trans* évoque la transdisciplinarité aussi essentielle à son travail corporel qu'à sa recherche. L'énergie est portée par le mouvement des corps en contact et par la médiatisation de leur souffle en un corps sonore élargi. La *trans(e)danse* réfère autant à l'état second atteint par les membres du corps élargi, une espèce de transe ressentie par chaque danseuse, que par la circulation bidirectionnelle des stimuli internes et externes.

Ce corps sonore élargi compose une forme collective et connective d'images-sons en mouvement et en trois dimensions. Élasticité des particules en contact et électricité des ondes en circulation dans un corps collectif en mouvement, la *trans(e)danse* évoque le croisement des corps à l'image-son d'un corps augmenté et à ses représentations déhiérarchisées. La *trans(e)danse*, c'est aussi la transdisciplinarité de la peinture cubiste, du corps sonore amplifié et du mouvement de l'énergie fondamentale du bassin. C'est l'état second ouvert à des dimensions telluriques et éthérées en harmonie avec la nature et l'esprit. Toutes les représentations du corps que le spectateur dessine en déambulant autour de la scène flottent entre image, présence et expérience.

Regarder cette masse se déployer, se déformer et s'informer, déployer son énergie dans une vitesse pendulaire soutenant l'amplification du souffle en son est un événement expérimentel. Ce corps élargi sonore devient le matériau du corps de l'œuvre, que nous regardons, recevons, construisons et interprétons. La performance du corps élargi sonore devient une véritable *trans(e)danse*, une danse qui passe à travers la ligne du son au rythme de l'expiration. Le regardeur intérieure l'œuvre, en pleine perte de repères, dans un espace mental et corporel élargi par cette captation.

#### Le corps de l'œuvre

Qu'ajoute le dispositif technosonore à la conscience et à la sensorialité du corps de l'œuvre ? Dans *Autour des demoiselles d'Avignon*, le dispositif technosonore servirait de prothèse de simulation du rapport du corps élargi entre image et présence. Il s'agirait de rendre visibles les effets d'ordres énergétique et synesthésique autrefois exclusifs aux adeptes des arts martiaux – longtemps inconnus, gardés secrets et déniés par le milieu scientifique. Ces effets sont maintenant explorés par les artistes qui peuvent les simuler, voire les stimuler, grâce à un dispositif numérique, extension du corps, de la vue, de l'ouïe et du toucher.

*Autour des demoiselles d'Avignon* d'Isabelle Choinière tourne autour des notions de symbiose et de fusion par ce jeu de rapprochement et d'éloignement. Dans l'intimité des corps reliés l'un à l'autre, constitutifs du corps élargi, la créature larvaire devient le miroir d'un univers numérique encore inchoatif. Le numérique facilite l'apparition d'une créature à la fois physique et numérique, visuelle et sonore, corps collectif de corps individuels connectés en un corps élargi sonore, comme s'il devenait ainsi le miroir des échanges invisibles entre les êtres humains dans l'intimité des corps physique, énergétique, cinétique d'une part, numérique et sonore d'autre part. Si la technique est un miroir interactif, comme l'affirme la théoricienne Isabelle Rioussel-Lemarié, le corps élargi, sonore et larvaire est un miroir signifiant. Les diffractions de cette *trans(e)danse* sont aussi nombreuses que les angles de re-dé-composition visuel et sonore, supports particuliers et ondulatoires du corps énergétique. Aussi nombreuses qu'il se trouve de spectateurs pour les percevoir, les déhiérarchiser et les reconstruire. ■

#### Notes

- 1 Si les spectacles de *Corps Indice* ne sont pas nombreux, c'est que chacun fait l'objet d'une recherche-création qui le nourrit de transpositions visuelles, sonores et scéniques, intégrées à diverses phases du processus, le tout supporté par des dispositifs qu'il faut le plupart du temps inventer. En plus d'une décennie, ils ont été vus au Canada, en France, en République tchèque et en Amérique du Sud. Par exemple, *La démesure des anges*, le spectacle présenté en mai 2007 à Montréal, simultanément à Tangente et à la Maison de la culture du Plateau-Mont-Royal, a connu sa première moure en 2000. Le titre de *l'ange* (nom du *work in progress*), qui a été renommé *La démesure des anges* lors de sa phase finale. En 1994, le premier spectacle a commencé son évolution, il s'appelait *Le passage des passés en phase work in progress* pour finalement s'appeler *Commissus* dans sa phase finale.
- 2 Cette moure présentait les résultats du travail effectué par Isabelle Choinière en résidence au Studio XX dans le cadre de l'Événement X, soulignant le dixième anniversaire du Studio.
- 3 Musée d'art moderne de New York, © 2009 Estate of Pablo Picasso, New York, Artists Rights Society (ARS) : [www.moma.org/collection/conservateur/demoiselles/index.html](http://www.moma.org/collection/conservateur/demoiselles/index.html)
- 4 Cf. Elizabeth Plourde, « Un ange venu du cyberspace », *Jeu*, 2003, p. 134. L'article présente une synthèse du travail d'Isabelle Choinière et de la notion du corps projeté.
- 5 Isabelle Choinière, *À la recherche d'un nouveau modèle chorégraphique adapté à notre époque*, L'orglogue : le corps collectif, (texte de recherche), Montréal, Planetarium Collegium, 2007, p. 4. Se référer aussi aux textes de Suelly Rolnik sur le travail de Lygia Clark : [En ligne], [www.zaiaonline.net/suellyrolnik/textos.htm](http://www.zaiaonline.net/suellyrolnik/textos.htm).
- 6 Tout le passage sur l'évolution de la danse s'inspire étroitement du texte intitulé *La danse, ses contextes et ses récits*, du théoricien et praticien Marc Boucher : [En ligne], 2005, consulté le 10 juillet 2007, [www.tangente.qc.ca/websichone/fra/DCR.htm](http://www.tangente.qc.ca/websichone/fra/DCR.htm).
- 7 Loc. cit.
- 8 Loc. cit.
- 9 Loc. cit.
- 10 Loc. cit.
- 11 Loc. cit.
- 12 Le mot *buto* s'écrit également « butô » ou « butoh ». Selon la chorégraphe, vidéaste et acousmate Biatrix Schenk, fondatrice de la compagnie Schenk, « Le mot *Buto* (bu : la dame, to : fouler le sol) a une origine très ancienne, sans rituelle (shintoïste) que populaire, pour communiquer avec le terre, les ténébrés. C'est un appel aux forces de l'au-delà. » [En ligne], consulté le 21 juillet 2007, [www.schenk.choreo.art.free.fr/danse-buto-definition.htm](http://www.schenk.choreo.art.free.fr/danse-buto-definition.htm).
- 13 Michèle Fèvre, *Danse contemporaine et théâtre*, Paris, Chiron, 1995, p. 125.
- 14 « L'art performance ou performance artistique est un médium ou une tradition artistique interdisciplinaire, née vers le milieu du XX<sup>e</sup> siècle, dont les origines se rattachent aux mouvements d'avant-garde (dadaïsme, futurisme, école du Bauhaus, etc.) » [Wikipédia, (En ligne), [www.fr.wikipedia.org/wiki/Art\\_performance](http://www.fr.wikipedia.org/wiki/Art_performance)]
- 15 Cf. Marc Boucher, « Danse et scénographies multimédias » (chapitre sur la synesthésie cinétique), [En ligne], consulté le 30 juin 2008, [www.arts.uqam.ca/docteur\\_art/IS/isyjci.htm](http://www.arts.uqam.ca/docteur_art/IS/isyjci.htm).

16 Isabelle Choinière, *L'orglogue : une stratégie via les technologies pour renouveler l'expérience sensorielle et perceptuelle du monde*, [conférence], Montréal, Collegium Montreal 2007 Summit : *Reviewing the Future: Vision, Innovation, Emergence*, 19 au 22 avril 2007, p. 1.

17 *Ibid.*, p. 5.

18 Sylvie Grémier, *La signature de la danse contemporaine*, Paris, Chiron, 1997, p. 28 ; citée dans Marc Boucher, op. cit.

19 Marc Boucher, op. cit.

20 Loc. cit.

21 Loc. cit.

22 Sylvie Grémier, op. cit., citée dans Marc Boucher, note 1102, op. cit.

23 Christine Palmieri, [conférence], 7<sup>e</sup> Congrès de l'ACFAS : *Le corps écrivain : Figure du sensible et lieu de partage* : [En ligne], [www.acfas.ca](http://www.acfas.ca).

24 Isabelle Choinière, *L'orglogue : le corps collectif*, op. cit.

25 Michaël La Chance, *Capture totale : Matrix, mythologie de la cyberculture*, Québec, Presses de l'Université Laval, coll. InterCultures, 2006, p. 110.

#### Bibliographie

Boucher, Marc. *La danse, ses contextes et ses récits*, Montréal, [En ligne], 2005, consulté le 12 juillet 2007, [www.tangente.qc.ca/websichone/fra/DCR.htm](http://www.tangente.qc.ca/websichone/fra/DCR.htm).

Choinière, Isabelle. *L'orglogue : le corps collectif*, [texte de recherche], Montréal, Planetarium Collegium, 2007, 13 p.

Choinière, Isabelle. *La démesure des anges*, [performance de Corps Indice], Montréal, Agoda de la danse et Maison de la culture du Plateau-Mont-Royal, 11 mai 2007.

Choinière, Isabelle. *Autour des demoiselles d'Avignon* [titre de travail], [performance publique], Montréal, Espace de production Hexagram, Événement X, 6 octobre 2005.

Choinière, Isabelle. *À la recherche d'un nouveau modèle chorégraphique adapté à notre époque*, L'orglogue : une stratégie via les technologies pour renouveler l'expérience sensorielle et perceptuelle du monde, [conférence], Montréal, Collegium Montreal 2007 Summit : *Reviewing the Future: Vision, Innovation, Emergence*, 19 au 22 avril 2007, 13 p.

Hubert, Monique. *Analyse d'un discours théorique en danse éditoriale : Questionnement sur la nature ontologique et sémiotique de la danse*, Québec, Université Laval, 1994, 352 p.

La Chance, Michaël. *Capture totale : Matrix, mythologie de la cyberculture*, Québec, Presses de l'Université Laval, coll. InterCultures, 2006, 199 p.

Plourde, Elizabeth. « Un ange venu du cyberspace », *Jeu*, n° 108, dossier « Le corps projeté », septembre 2003, p. 132-135.

8.2.2 *Enrico Pitozzi* (2008) 'Sismographies de la présence'.

Pitozzi, Enrico (2008) 'Sismographies de la présence', *paper presented at the Journées d'études Effets de presence, effets du reel, June 6, 2008, Montreal, Quebec, Canada.*

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Article have approval to be used

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« Effets de présence, effets du réel », Montréal, 06 juin 2008

Sismographies de la présence  
par Enrico Pitozzi

#### 0. Prélude

Peut-être que nous sommes vraiment dans une rupture épistémologique – un véritable déplacement du point de vue sur les arts de la scène – qui investit le rôle du performeur en faveur d'autres, plurielles, formes de présence. Cette rupture épistémologique passe par la relation que la scène institue avec les technologies. Je voudrais commencer avec une affirmation : le concept de présence ne peut pas être réduit seulement au corps du performeur, mais, au contraire, il doit être élargi pour intégrer ce que j'appellerais les « présences objectives », comme la lumière et le son par exemple. Dans cette perspective, il est nécessaire d'ouvrir le champ de recherche pour décentrer l'attention sur le corps et la focaliser sur le dispositif qui permet aux présences de se manifester.

Je reviens, alors, sur la possibilité de penser la scène comme un négatif photographique qui porte à la surface les éléments cachés et les conditions où les présences se définissent. Ces principes informent l'architecture de ce texte organisé selon un mouvement tellurique en cinq paragraphes concernant la présence dans le contexte des arts performatifs, mais aussi de l'installation visuelle, pour tracer, enfin, un cadre esthétique unitaire sous forme d'une théorie des gradations de la présence liées au processus de transformation. Clairement le concept de « gradation » n'indique pas une variation de qualité et quantité mais plutôt de consistance et d'intensité. Il n'y a pas une présence plus qualifiable qu'une autre, mais il y a des degrés de présence conçus selon diverses échelles d'intensité. Ce que je voudrais porter à notre réflexion, c'est que le point de convergence entre les arts vivants et les installations est un travail sur un matériau très particulier : *le temps*. Donc, pour moi, dans les œuvres que je traverserai, c'est une vibration, une tension entre les choses, qui fait surgir la présence du corps en mouvement ou de ses traces sonore et lumineuse ou des objets. Et le travail sur le temps, dans cette perspective, est très lié à la présence comme tension perceptible, processus de transformation que mène *du temps des formes aux formes du temps*<sup>1</sup>.

#### I. premier mouvement : généalogie de la présence dans les arts vivants

La présence du corps est, en même temps, le point de départ et le noeud théorique à penser pour analyser un travail performatif. Je partirai de l'étymologie : le terme « présence » dérive du latin *praesentia* et renvoie, en premier lieu, à quelque chose qui fait sens dans son être matériel et qui s'inscrit dans une certaine dimension spatio-temporelle face à quelqu'un qui l'observe. Patrice Pavis parle de la présence, dans le *Dictionnaire du Théâtre*, comme de quelque chose qui provoque immédiatement l'identification du spectateur<sup>2</sup>. Donc il parle d'une sorte d'*aura*, ailleurs qui entoure le geste du performeur. Ensuite, dans un contexte concernant le théâtre postdramatique, Hans-Thies Lehmann écrit que la présence renvoie à une fascination loin du sens, où le corps devient le centre de gravité, non pas comme vecteur du sens, mais dans sa substance physique et dans son potentiel gestuel<sup>3</sup>.

Pour Hans-Thies Lehmann, la présence est liée à une qualité subtile, indéfinissable, du corps du performeur, mais – à bien y regarder – il semble aller au-delà en introduisant un élément très important pour notre discussion : le *potentiel du gestuel*. Ceci renvoie donc à la relation que le corps instaure avec l'espace. Dans cette direction, on peut dire – provisoirement – que la présence se définit à partir d'une capacité du performeur de construire une relation singulière avec l'espace – en termes cinesthésique et chrono-esthésique – pour capter l'attention du spectateur. Sur la base de ces

<sup>1</sup> C. Buci-Glucksmann, *Esthétique de l'éphémère*, Paris, Galilée, 2003.

<sup>2</sup> P. Pavis, *Dictionnaire du Théâtre*, Paris, Éditions Sociales, 1980, p. 306-307.

<sup>3</sup> H-T. Lehmann, *Postdramatisches Theater*, Frankfurt-am-Main, Verlag der Autoren, 1999 (tr. fr. de P.H. Ledru, *Le théâtre postdramatique*, Paris, L'Arche, 2002, pp. 150-151).



prémises, je peux, alors, formuler une première définition du concept de présence à laquelle je me référerai et autour de laquelle je travaillerai.

La présence s'institue par coalescence entre les tensions (cerveau, système nerveux et de locomotion) qui constituent la corporéité et les modalités d'organisation de l'espace avant l'intervention des technologies. Ces relations s'établissent à trois niveaux :

- *Cinématique* : il concerne la disposition des différentes parties ou sections du corps dans l'espace.
- *Dynamique* : il concerne les informations provenant de la qualité des différentes tensions musculaires employées pour l'exécution du mouvement.
- *Esthétique* : il concerne le niveau de tension global et le degré d'adhérence du performeur à l'action en exécution.

Toutes les définitions qui ont été jusqu'ici articulées (Pavis, Lehmann et celle que j'ai introduites) attribuent la qualité de présence uniquement au corps physique et elles sont fondées sur la notion d'unité de lieu et de temps. Au plan physique, la présence est, alors, un corps qui s'expose aux spectateurs dans un espace-temps partagé. Jusqu'à ce point, tout semble marcher, apparemment, dans la direction tracée. Mais il y a deux questions à l'horizon auxquelles on doit répondre : la première concerne les formes de présence autres, leur consistance et surtout leurs degrés de « matérialité » ; l'autre concerne le point où se vérifie le déplacement des signes virtuels par rapport à la dimension physique.

Je voudrais concentrer l'attention, pour le moment, sur le fonctionnement de la présence du corps. Donc, si d'un côté la présence du corps est définie par *l'ici et maintenant*, les espace-temps mentaux du performeur en action ne sont pas unitaires mais multiples. Avec l'introduction de la dimension mentale dans le processus de composition du mouvement, je voudrais renvoyer à la *fiction* dont a parlé Michel Bernard, et qui concerne, en premier lieu, la projection de la corporéité à l'extérieur<sup>4</sup>. Le performeur doit, en d'autres termes, imaginer et projeter son anatomie dans l'espace avant d'agir matériellement. Le corps est sur la scène et il occupe une portion précise d'espace physique ; la mémoire et l'imagination sont, par contre, des vecteurs qui tendent à projeter à l'extérieur, selon des configurations diverses, la corporéité imaginée. Donc la projection se produit hors de *l'ici*. Dans ce passage, on peut reconnaître un premier – léger – signal d'éloignement que m'amène à discuter la présence, dans ses formes multiples, en termes de gradation. Une première manifestation de gradation de la présence concerne le processus de travail sur le micromouvement, comme dans l'écriture chorégraphique – filtrée du logiciel LOL – de Myriam Gourfink<sup>5</sup>. Travailler à ce niveau signifie chercher une dimension très subtile de présence, qui conduit à percevoir chaque partie du corps ; la ligne de tension interne aux mouvements est privée d'interruptions rythmiques, elle n'a pas des variations mais seulement des modulations. Elle est radicale dans son développement linéaire. La figure qu'elle donne à voir est semblable au déplacement d'un corps à l'intérieur d'une toile d'araignée<sup>6</sup>.

Il est nécessaire d'activer une perception diffuse pour focaliser l'attention sur l'ongle du pouce, trouver un trajet dans les bras, se déplacer pour aller à un point au-dessus de la tête. Ou, encore, trouver un trajet dans le corps pour repartir et s'arrêter sur le talon à droite, sur la peau, et puis écouter le poids remonté dans un flux à l'intérieur de la jambe, et aller dans la chair, à l'intérieur du bassin et ensuite circuler vers le plafond, trouver un point très précis ou, à l'envers, une grande surface. Il faut chercher comment on véhicule la concentration sur des surfaces ou sur des points différents ; il est nécessaire

<sup>4</sup> Je me réfère, dans ce contexte, aux recherches de M. Bernard et surtout de Hubert Godard sur les relations entre le cerveau, le système nerveux et le mouvement, pour ce qui concerne le processus *fictionnaire* et le *pre-mouvement*. M. Bernard, *De la création chorégraphique*, Pantin-Paris, 2001 ; H. Godard, *Le geste et sa perception*, en « La danse au XXe siècle » (sous la direction de I. Ginot et M. Michel), Paris, Larousse, 2002, p. 236. P. Kuypers, *Des trous noirs. Un entretien avec Hubert Godard*, in "Nouvelles de danse", n° 53, 2006, p. 80. Sur ce sujet F. Corin, *Le sens du mouvement interview d'Alain Berthoz*, « Nouvelles de danse », n° 48/49, automne-hiver 2001, p. 80.

<sup>5</sup> <http://www.myriam-gourfink.com/>

<sup>6</sup> La partition pour ces travaux est composée avec le logiciel LOL, système informatique réalisé par Frédéric Voisin de L'IRCAM à Paris en collaboration avec Myriam Gourfink et K. Toetpliz. LOL est composé à partir de l'analyse des classes du mouvement tirées des théories sur l'espace et le mouvement de R. Laban.



de sentir comment ça donne matière au corps à être soulevé, à bouger, à trouver un désir pour aller dans une direction donnée. Pour faire ceci on doit sentir comment tous ces passages impliquent les fascias, les muscles. Ces déplacements sur lesquels je me suis concentrée dans ce passage, sont complètement soutenus par la respiration et seulement cet aspect très important du mouvement met en jeu la question de la présence comme modalité de perception globale du processus de composition et de déroulement du mouvement dans l'espace<sup>7</sup>.

Ce niveau de la présence implique un processus de visualisation intérieure, l'écoute de chaque infime modification du mouvement. C'est effectivement un travail qui prend en considération les tissus, la différence de qualité entre eux ou, encore, la modalité de respiration par rapport au poids, à la qualité des articulations jusqu'à la qualité des tensions ou, à l'envers, du relâchement des fascias musculaires. C'est un processus global, un dialogue constant entre tous ces aspects. Le mouvement s'établit dans cet étirement musculaire, il n'aspire pas à la forme stable, il ne cherche pas à définir et à préciser les contours du corps. Ceci est un travail fait sur les modulations plus que sur les formes. Le micromouvement détermine alors un plan temporel lent, sans lequel on ne pourrait pas donner la même précision dans les passages entre les différentes postures. La lenteur de l'exécution permet donc de multiplier les instants et de rallonger, en les rendant visibles, les passages qui ne pourraient pas être perçus. La qualité de cette présence est subtile, se révèle comme un passage éphémère; quelque chose que le spectateur doit capter dans le même instant où elle apparaît; mais la présence n'est pas dans l'instant, elle est expression d'un processus plongé dans le temps, une vibration qui maintient la perception du spectateur en tension.

## II. Deuxième mouvement : la présence par rapport aux technologies sur la scène

Si j'ai parlé du travail de Myriam comme d'un premier niveau où la présence active son processus de dislocation en soi-même, on doit suivre les modalités avec lesquelles le mouvement est mis en relation avec divers systèmes technologiques (*motion capture* et autres) qui multiplient et réécrivent la présence du corps sur la scène.

Avant de discuter ces aspects, je voudrais préciser quelques caractéristiques des technologies dont je parlerai.

Les instruments de captation du mouvement employés sur scène sont organisés selon deux principes, à la fois techniques et théoriques. Ce sont l'*interface* – un filtre capable de sélectionner des informations et d'en repousser d'autres pour les élaborer dans un processus numérique de transformation<sup>8</sup> – et le code *numérique* qui permet de transposer des sons, images et mouvements en informations pouvant être emmagasinées et transformées par un ordinateur<sup>9</sup>. Donc, à travers l'application de ces deux fonctions, la technologie numérique comme la *motion capture* – instruments de différente nature appliqués directement au corps des performeurs – il est possible de percevoir des données du mouvement qui, en conditions normales, ne pourraient pas être perçues.

Transformer le mouvement en données – ici le sens de ma réflexion – signifie le manipuler et donc faire surgir de sa matérialité une présence de deuxième niveau caractérisée par une matérialité autre qui est faite de lumière et de son. Mais le processus technique n'est pas suffisant pour comprendre la globalité de cette intervention. On doit comprendre que les technologies ne sont pas des moyens, mais des environnements qui véhiculent un processus de pensée<sup>10</sup>. Seulement ainsi il est possible d'attribuer à chaque application technologique une fonction esthétique sous-jacente, qui la soustrait

<sup>7</sup> Myriam Gourfink. Cf. E. Pitozzi, *L'intima percezione del movimento: verso una fenomenologia della lentezza*, « Art'O », n° 25, printemps 2008, p. 42.

<sup>8</sup> Cf. *Very Nervous System* (1986-1990) de David Rokeby. Sur ce sujet voir de Kerckhove in L. Poissant, *Esthétiques des arts médiatiques*, 2 voll., Montréal, Presses Universitaires du Québec, 1995.

<sup>9</sup> Cf. S. Dixon, *Digital performance*, Cambridge, MIT press, 2007 et M. Hansen, *bodies in code*, New York and London, Routledge, 2006.

<sup>10</sup> Voir B. Massumi, *Parables for the virtual*, London, Duke University Press, 2002 et M. Hansen, *New philosophy for new media*, Cambridge, MIT, 2003.

à la seule dimension technocratique pour l'inclure, en même temps, dans un complexe principe de composition. Je peux, alors, attribuer aux néo-technologies des caractéristiques générales concernant leurs applications en scène<sup>11</sup>:

1. La technologie n'est pas un « moyen », mais plutôt un environnement;
2. La production et la jouissance des néo-technologies (*motion capture* et autres) interviennent directement sur les processus de sensation;
3. Elles contribuent à l'abolition de la séparation entre intérieur et extérieur. Les micromouvements ou les mouvements involontaires sont portés dehors.
4. Les néo-technologies sont des instruments de connaissance, parce qu'elles permettent une nouvelle cartographie perceptive et sensorielle du corps;
5. D'un point de vue esthétique et opérationnel, les néo-technologies contribuent à rendre visible l'invisible.
6. Du signifié – communication d'un message – on passe à l'activation de « signifiant » comme l'utilisent des données de mouvement transformées en lumière ou sous forme sonore.
7. Les néo-technologies ont un caractère d'« aséité » donc d'autonomie et d'autosuffisance; ici se configure le passage, pour moi central, depuis une esthétique de l'action à une esthétique de la situation;
8. Enfin, à la « forme » comme catégorie esthétique traditionnelle, on va en substituant le « flux technologique » et son esthétisation;

Comment je le faisais remarquer auparavant, les technologies citées et leurs caractéristiques interviennent directement sur le corps du performeur en redéfinissant son organisation sensorielle. J'ai affirmé que les technologies ne sont pas des « moyens » mais plutôt des *environnements*; dans ce sens, en relation avec le corps, ni elles le substituent ni elles l'augmentent vraiment. Dans ce contexte, le corps ne stimule pas un potentiel technologique, mais il est stimulé par ce potentiel<sup>12</sup>. Il y a un changement très important du point de vue analytique, parce que dans les expériences auxquelles je ferai référence on ne traite jamais de dépasser la limite du corps, mais, plutôt, d'explorer les possibilités du mouvement, donc ses potentialités d'action et de figuration<sup>13</sup>. Ensuite, l'application de ces dispositifs a contribué à ouvrir un nouveau domaine d'enquête de caractère esthétique, qui concerne la relation entre la corporéité physiquement présente en scène et la disposition de ses multiples figures (re)produites. Les figurations (ou présences autres) qui ont comme matrice le corps et qui sont introduites en scène sur écrans, naissent d'une relation serrée entre ce que je définirais comme les technologies *mentales* – c'est-à-dire toutes les opérations qui renvoient aux activités perceptives/sensorielles et qui ont une relation avec le système de locomotion – et comme les technologies *numériques*, inhérents aux dispositifs technologiques qui permettent la circulation des signes de la présence. L'application des technologies numériques sur les technologies mentales advient en deux opérations :

- *Simulation* : elle concerne la modélisation numérique; elle désigne une variation d'existence et de consistance. Depuis une réalité d'ordre primaire, empirique – la corporéité du performeur – on passe à une réalité d'ordre supérieur composée de règles de formalisation mathématique. Les interfaces informatiques qui sont employées dans ce processus ne sont

<sup>11</sup> Voir aussi M. Costa, *Dimenticare l'arte*, Milano, Franco Angeli, 2005.

<sup>12</sup> S. Broadhurst, *Digital Practices*, Houndmills, Palgrave Macmillan, 2007.

<sup>13</sup> Avec l'introduction des technologies de captation du mouvement sur la scène, le performeur se trouve face à une bifurcation : concentrer son attention sur le seul niveau « proprioceptif » - données provenant de l'activation des sens -, ou bien canaliser l'attention sur le niveau « extéroceptif », données extérieures rendues sous forme sonore et d'images. Ces signaux, de retour vers le corps de l'interprète, lui redonnent une dimension sensorielle complexe utile pour élaborer un nouveau projet de mouvement. C'est dans cette direction que se délinée une intégration profonde entre le corps et les technologies, exactement là où ces dernières offrent au performeur de concrètes modalités d'enquête cognitive sur l'organisation de sa corporéité et permettent, en même temps, de corriger ce que Hubert Godard a défini comme la « sclérose de la répétition » concernant la réutilisation de la même structure de mouvement. P. Kuypers, *Des trous noirs. Un entretien avec Hubert Godard*, in "Nouvelles de danse", n° 53, 2006, p. 74. Voir, A. Menicacci et E. Quinz, *étendre la perception?*, « Nouvelles de danse », n° 53, 2006, p. 76.



rien d'autre qu'un circuit qui rend possible le lien entre la réalité de premier ordre – le corps physique (matrice) – et les présences qui trouvent localisation sur les écrans en scène;

- *Delocation* : ce processus détermine le déplacement de la corporéité physique en signes sonores et visuels et implique, par conséquent, une opération de degré supérieur par rapport à la simulation. À ce niveau, les signes se rendent indépendants, ils se réorganisent en un nouveau degré de présence.

Donc, dans la relation entre la présence physique et ses signes, n'est-il pas un problème de formes de présences distinguées, mais plutôt d'une même présence faite de dimensions complémentaires, qui se donne pour degrés, ou mieux pour effets qui coexistent sur la scène<sup>14</sup>. En ligne avec ce que j'ai dit, je peux affirmer – peut-être en forçant un peu la pensée – qu'on est présent exclusivement à l'intérieur d'une polarité qui présuppose un *apparaître* – venir en présence – et un *disparaître* à la perception du spectateur. Ceux-ci sont les deux passages clé que je voudrais souligner. À mon avis, à partir de ce point, il n'est pas question de présence totale et accomplie ou, vice-versa, d'absence, mais de gradations infinitésimales, figures intermédiaires : la présence est *metaxu*, se produit entre la polarité tracée. À partir de ces prémisses, je peux avancer, sur la scène contemporaine, différentes figurations de la présence.

Je chercherai ici à tracer une phénoménologie de tendances qui semblent opérer selon deux directions possibles : la première concerne un caractère *intensif*, l'autre *extensif*. Toutefois, je dois le dire, ceux-ci ne sont pas en opposition, mais en relation continue. La qualité intensive de la présence tend à augmenter, à élever le degré de perception du corps – ou d'une de ses parties – auquel il est référé. L'intensité renvoie donc à une adhérence, ou mieux, à une proximité immédiate entre le corps et le signe qui l'intensifie, soit sur le plan visuel ou, à la limite, sonore.

a)- **Reproduction**: Dans cette perspective on peut signaler *schème II* (2002) ou *Recombinant - le corps techn(o)rganique* (2004) de Kondition Pluriel<sup>15</sup>, formation du Québec, dans lequel le corps du performeur est la matrice des figurations projetées sur l'écran. Au niveau du traitement numérique, dans *Recombinant*, le travail est sur l'altération de la perception à un niveau quasi imperceptible, une altération concernant la structure du temps jouée entre des images du corps en temps réel et des images redonnées avec un très léger délai, pour passer, ensuite, à une superposition d'images passées et présentes. Dans ce travail se compose un véritable réseau de relations temporelles, où les spectateurs découvrent des « antichambres virtuelles » où le présent, le passé, le réel et l'imaginaire sont confondus. Les actions ou tâches du mouvement déclenchent également des processus numériques automatisés (à caractère récursif) qui sont sans cesse réorganisées selon une structure différente. Les mouvements des performeurs sur la scène – branchés à des capteurs situés sur leur corps – guident et organisent directement les architectures de lumière pour révéler et transformer l'invisible en visible dans une tension continue entre le corps physique et ses traces. Les spectateurs accèdent à une mosaïque de points de vue, de transparences, de couches d'images et de sons. Les corps des performeurs leur apparaissent multiples; ils se reflètent dans des extensions médiatiques. L'installation forme un réseau, une machine pour organiser le temps, un système de tension auto-poétique auquel tous participent.

À l'intérieur d'une modalité qui met en relation le corps présent sur la scène et des traces sur l'écran, on peut citer *Hamlet* (2006) du Wooster Group<sup>16</sup>, dans lequel la relation entre les images qui passent sur l'écran de fond et l'action de l'acteur sont interchangeables ; l'acteur physiquement présent sur la scène répète et double – jusqu'à soustraire l'action – les figures cinématographiques. En d'autres termes, l'action sur l'écran semble être absorbée par celle des acteurs sur la scène. A

<sup>14</sup> Cf. le travail du Groupe de recherche « performativité et effets de présence » à l'Université du Québec à Montréal. [www.effetsdepresence.org/index.html](http://www.effetsdepresence.org/index.html). S. Dixon, *Digital performance*, cit., et la recherche du « Present Project » de l'Université d'Exeter (UK) réalisé en collaboration avec l'Université de Stanford (USA) <http://presence.stanford.edu/> G. Giannachi, *Virtual theatres*, London, Routledge, 2004.

<sup>15</sup> <http://www.konditionpluriel.org/>

<sup>16</sup> <http://www.thewoostergroup.org/>

cette forme d'absorption, correspond une forme de soustraction progressive de l'image filmique, dans laquelle les personnages deviennent des véritables spectres.

b)- La seconde partie du diptyque qui forme *M#10 Marseille* (2004), épisode de la *Tragedia Endogondia* de Romeo Castellucci/Raffaello Sanzio<sup>17</sup>, est une scène organisée autour de flux de lumière où le spectateur assiste à une sismographie chromatique de l'espace. Les spectrographies – composées par Cristiano Carloni et Stefano Fransceschetti – sont des figures fondées sur le contraste de lumière qui impriment sur la rétine des taches qui semblent flotter sur un fond liquide. Il s'agit d'une sorte d'intervention sur le grain de la matière, sur sa consistance, qui se fait image reconnaissable ou menace, radiographie en mesure de matérialiser des pensées en transit, comme sur la plaque photosensible d'un cerveau. Phénoménologie paradoxale de l'invisible, les matériaux chromatiques sont travaillés en vue de restituer des formes dynamiques et des architectures de lumière, des *présences objectives* complètement autonomes qui sont des taches de couleur, des ombres, des amas de substances organiques qui s'effleurent, se heurtent et explosent.

c) - **Traces de mouvement** : avec cette forme de gradation, je me réfère aux expériences qui tendent à produire un accroissement intensif d'un mouvement singulier. Dans cette direction, on peut signaler *Apparition* (2004) de l'artiste multimédia Klaus Obermaier<sup>18</sup>, dans lequel une trace lumineuse – produite par un calcul algorithmique de données extraites du mouvement du corps – parcourt et double le mouvement du performeur<sup>19</sup>. Et le double est en quelque sorte une façon d'échapper au concept de reproduction. À cette dernière, on préfère la résonance, l'écho, une continuité dans l'unisson d'un même mouvement, dans la trace qui n'est pas adhérence totale (qui nous laisse croire qu'un être invisible marque encore l'espace-temps) mais un développement sans début ni fin producteur d'architectures éphémères organisées par les mouvements.

Dans une modalité analogue, sur la scène des japonais *Dumb Type*<sup>20</sup>, se manifestent des figures diverses, gradations de présence que le dispositif audio-visuel convoque selon trois aspects complémentaires : l'ombre, la reproduction et le reflet. Leur dispositif est englobant, il est comme un métalangage. Il structure le spectacle, lui donne sa forme. *Dumb Type* s'intéressent donc aux lieux immatériels « entre » l'espace et les corps, exactement en ligne avec le concept de *Ma* dans la culture japonaise. D'un côté, dans les spectacles *[OR]* (1997) et *Mémorandum* (1999/2002), le corps du performeur est perceptible comme ombre, vision en *négatif* (comme dans une photographie) dans laquelle le corps est un intervalle dans la continuité du fond. Les stroboscopes, souvent utilisés, découpent les silhouettes des corps. Ils donnent aux acteurs la possibilité d'apparaître et de disparaître sur la scène tels des fantômes. Donc les jeux de lumières blanches – souvent placées derrière eux – les transforment en ombres au premier plan. Ces travaux dessinent un nouvel *éloge de l'ombre* dans lequel le corps du performeur se donne sous forme de gradations de lumière ou à travers le déploiement d'une trace qui rend, comme dans quelques passages de *Mémorandum*, l'impression (passagère) du seul mouvement, devenu une sorte de vibration dans l'espace.

Sur un autre plan, nous trouvons une série d'expériences qui concerne des gradations de la présence à caractère extensif. Étendre, dans ce contexte, signifie séparer, porter les signes de la présence à se disjoindre du corps physique; chercher une localisation spatiale, son autonomie en tant que signe, en réécrivant en mode radical la relation avec ce qui l'a engendré.

a) – Sur la limite entre la dimension intensive et celle extensive, on peut citer le film chorégraphique *Captives 2e mouvement* (1999) de N+N Corsino<sup>21</sup>. Dans ce travail, en effet, la corporéité physique est ailleurs, hors de l'espace visuel. Les figures sur l'écran sont complètement synthétiques. Le corps réel a disparu, il prête seulement hors scène son mouvement (capté par des

<sup>17</sup> <http://www.raffaellosanzio.org/>

<sup>18</sup> <http://www.exile.at/ko/>

<sup>19</sup> Je signale aussi le travail de Ginette Laurin *Traccia* (2004), court-métrage réalisé par Oana Suteu. <http://www.overtigo.com/en/section1.html>

<sup>20</sup> <http://dumbtype.com/>

<sup>21</sup> <http://www.nncorsino.com>



systèmes de *motion capture*). Toutefois la corporéité en dehors de la scène informe, selon la reproduction de ses paramètres (gravité, le poids), le mouvement de l'*avatar* sur l'écran, en marquant une autonomie de la corporéité-vidéo par rapport à la scène physique.

b)- **Figures de lumière** : ils renvoient aux premières élaborations de *motion capture* conçues par Paul Kaiser avec Merce Cunningham pour la composition de *Hand-Drawn Spaces* (1998) et de *Biped* (1999). Ce qui est intéressant dans ces travaux, c'est la possibilité d'intervenir sur les données obtenues de la captation du mouvement pour les faire diverger du corps physique qui les a engendrés. Ce processus produit de véritables abstractions lumineuses, où les corps des danseurs semblent se démembrer, se disloquer et la trace de la mémoire du corps physique (anatomique) elle semble s'effacer.

c) - **Présence à distance**<sup>22</sup> : Nous sommes ici face à une modalité particulière pour étendre la présence, dans laquelle ses signes sont disloqués depuis l'emploi d'instruments technologiques, comme la télé-présence, dans des lieux distincts de la présence physique. C'est dans cette direction que s'inscrit le travail de la chorégraphe québécoise Isabelle Choinière - *Corps Indice*<sup>23</sup>, *La démence des anges* (2002). Dans ce travail le corps synthétique se construit au croisement entre les corps physiques, matériels, et leurs projections réciproques. Sur scène, les signes des corps sont mêlés aux corps physiques, jusqu'à se confondre. Cette intervention se développe donc simultanément en deux lieux différents communiquant avec des interfaces de réseau. Dans chaque lieu, on trouve un interprète et les spectateurs. Les deux interprètes engendrent, en temps réel, par leur propre mouvement, le son et l'image qui sont projetés (et perçus) à l'intérieur de l'espace de l'autre. Ce processus invite à reconfigurer, par conséquent, la perception du performeur en action et crée une superposition et une confusion de dimensions « réelles ».

d)- **Sonique** : il renvoie à une modalité de gradation de présence qui se réduit au son. Nous pouvons citer *3e création, phase 2* (2006) de la chorégraphe Isabelle Choinière. Le dispositif de la scène vise, à travers l'utilisation de divers capteurs, à produire du son. Ceci a permis de développer un principe de proprioception ou de synesthésie sonore qui participe à la complexité de la dynamique du corps collectif écrite par la partition chorégraphique. En autres termes, les données captées par l'ordinateur central, qui proviennent soit de capteurs spatiaux disposés sur la scène soit de capteurs magnétiques (ou d'autres types) disposés sur les corps des performeurs – avec une transformation à caractère numérique – sont employés pour produire le son. Le *bodyscape* est donc le son, parce que le corps sonore est une émanation du corps réel, comme un double qui en constitue une vibration.

### III. Seuil. Notes sur l'interpénétration entre réel et virtuel.

Le concept de virtuel est une des composantes plus importantes pour la relation entre la scène et les technologies.

Toutefois, on doit faire des précisions pour avoir la possibilité d'utiliser ce terme sans se méprendre. Le virtuel ne construit pas son statut en opposition au réel; plutôt le virtuel est un stade, une dimension du réel<sup>24</sup>. Ce qu'est virtuel est déjà dans le réel, mais son statut est beaucoup plus semblable aux forces qui sous-tendent les formes visibles, aux causes cachées ou potentielles. C'est le principe actif, ce qui relève de la puissance cachée du réel, ce qui est à l'œuvre dans le réel<sup>25</sup>.

Donc, le virtuel n'indique pas une forme de déréalisation ou de dématérialisation du corps ou de la scène, mais – au contraire – la formalisation d'une dimension de changement de la matière dont le corps est composé. Ce que je veux dire est que le virtuel est une *aura*, quelque chose qui contourne le réel. Dans ce contexte, le processus de *fiction* que j'ai cité auparavant est exactement un niveau

<sup>22</sup> Cf. J-L. Weissberg, *Présences à distance*, Paris, l'Harmattan, 1999.

<sup>23</sup> <http://www.corpsindice.com/>

<sup>24</sup> G. Deleuze, "L'actuel et le virtuel", in G. Deleuze, C. Parnet, *Dialogues*, Paris, Flammarion, 1996 [1977]; J-L. Weissberg, "Le concept réel/virtuel", in *Chemins du virtuel*, Paris, Éditions du Centre Georges Pompidou, 1989, p. 60; P. Lévy, *Qu'est-ce que le virtuel?*, Paris, Éditions La Découverte, 1995

<sup>25</sup> Philippe Quéau, *Le virtuel. Vertus et vertiges*, Seyssel, Éditions Champ Vallon - INA, 1993.

de virtualité qu'informe le corps avant de se disposer dans l'espace. Sur cette ligne, alors, les signes numériques du corps ne sont pas des formes de dématérialisation, mais des stratégies pour mettre en résonance le corps même et faire circuler ses diverses formes de présence. Il n'y a pas d'opposition mais une continuité coextensive qui commence avec le concept de *fiction* pour se prolonger en dehors du corps, à travers les traces de lumière et de son. Donc la première dimension du virtuel est *déjà* dans le corps. C'est seulement avec l'application des technologies de captation qu'on peut parler d'un niveau supplémentaire de virtualité, mais ce niveau n'est que la manifestation visible, sous forme de lumière et de son, d'une virtualité que le corps a déjà en soi-même. Donc le virtuel est une *vibration* qui permet au réel d'être en transformation permanente, exactement comme les signes de la présence mettent en tension le corps auquel ils sont référés.

#### IV. Troisième mouvement: le concept de présence dans les installations visuelles

Ainsi dans certaines installations, je retrouve un transit analogue entre les deux polarités de l'apparaître et du disparaître qui caractérisent la qualité de la présence dont je parle. *Ondulation* (2002) est une composition pour eau, son et lumière conçue par Thomas McIntosh<sup>26</sup> en collaboration avec le compositeur Emmanuel Madan, tous deux artistes canadiens, et Mikko Hynninen, concepteur sonore finlandais. Dans une salle plongée dans la pénombre, un immense bassin d'eau est parcouru d'ondes concentriques. Intuitivement le visiteur comprend que les sons, les mouvements à la surface de l'eau et les ondes lumineuses sur les murs sont en étroite relation. L'eau a ici la fonction d'un véritable médium, un vecteur de transformation. L'eau assume ainsi les propriétés de plaque sensible sur laquelle s'impriment les vagues sonores qui vont composer les figures de lumière. En même temps, la variation d'intensité du son ou la variation de quelques fréquences, se traduisent dans un flux sur la superficie de l'eau et la vague acoustique se traduit, dans ce travail, en vague aquatique. Ce jeu d'apparition-disparition permet donc de rendre visible le son et, inversement, d'écouter l'image, de la faire apparaître à la perception pour disparaître ensuite à travers une série de gradations qui mettent en question l'organisation perceptive du spectateur. Kurt Hentschlagel<sup>27</sup>, fondateur de Granular Synthesis, compose des installations à partir du *collapsus* de l'espace visible, dans lequel la présence se produit sous forme de corps flottants comme dans *Karma* (2004) ou *Feed* (2005). Sur un écran panoramique qui occupe une chambre dans laquelle le spectateur est invité à entrer, un corps virtuel produit en 3D apparaît et disparaît sous un faisceau de lumière stroboscopique et de vibrations sonores. Soumis à un tel bombardement, le prototype virtuel se duplique dans une multiplicité de fantômes cellulaires qui envahissent les écrans avec une vibration lumineuse. Les corps se reproduisent et bougent à partir d'une « simulation procédurale » ou bien selon des algorithmes. L'espace d'action devient une chambre hallucinatoire où les figures virtuelles s'impriment sur la rétine de l'œil du spectateur sous l'effet des stroboscopes<sup>28</sup>. Dans ce schéma, on peut citer *Éther* (2005), installation des Québécois Skoltz Kolgen<sup>29</sup>. Ce travail se présente comme une œuvre dédiée à l'épiphanie du passage d'état de la matière : le liquide devient gaz, ou mieux, il se fait respiration, souffle. Le dispositif de l'œuvre est divisé en deux écrans. Le corps fluide en provenance de l'écran à l'extrême gauche est volatilisé, dilapidé, projeté en apesanteur par la pulsation sonore vers l'écran de droite. L'influx audio subit la même translation. La matière sonore fluide est vaporisée en particules. Un processus semblable informe *Camera lucida*, réalisé par Evelina Domnitch e Dmitry Gelfand<sup>30</sup>. Plongé dans un espace complètement noir, ceci afin de mettre entre parenthèse l'orientation spatio-temporelle du spectateur et stimuler – par conséquent – un haut degré perceptif, permet de visualiser la transformation progressive de vibrations sonores en émissions lumineuses. Captée par des

<sup>26</sup> <http://www.ondulation.net/>

<sup>27</sup> <http://www.hentschlagel.info/>

<sup>28</sup> *Feed* était composé pour la Biennale Teatro de Venise dirigé par Romeo Castellucci (2005).

<sup>29</sup> <http://www.skoltzkolgen.com/>

<sup>30</sup> <http://www.portablepalace.com/>



hydrophones - microphones qui peuvent être plongés pour enregistrer les différentes fréquences - la sonoluminescence se produit lorsque des vagues sonores (avec une ampleur adéquate) provoquent l'implosion des bulles de gaz présentes dans un liquide. Ce processus produit un relâchement d'énergie de collision qui, dans une conjoncture micro-temporelle, rend visible le phénomène lumineux. *Camera Lucida*, en effet, tend à rendre visibles les corps lumineux flottant dans le vide, sans direction.

#### V. Pour une théorie des gradations de la présence

Nous sommes portés à considérer la présence et l'absence – sur la scène mais aussi dans les installations) comme deux opposés. Exactement comme le réel et le virtuel, elles ne s'opposent pas comme nous le montrent les œuvres abordées, mais elles correspondent à deux polarités d'un même processus intermédiaire qui mène de l'un à l'autre (et vice-versa) en passant par une série infinie de variations médiates par des technologies, une série de gradations concernant un changement d'état de la matière. Au même niveau que le solide, le liquide ou le gazeux, le numérique est assimilable à un état de la matière parce qu'il permet de transformer des informations. Ainsi comme une matière à l'état liquide peut, à travers un processus de solidification, se transformer en glace, aussi la contraction d'un muscle à l'intérieur d'un mouvement peut, en passant par un procès de numérisation, devenir un son ou donner consistance à une image qui, sur scène, entre en relation avec le corps du performeur.

Avec les technologies sur scène, le signe de la présence met en évidence le temps de son apparition et de sa disparition, souvent en mode imperceptible. Dans cet état de choses, la présence, à un certain degré, peut être considérée comme la manifestation d'une série complexe de tensions présentes, mais qui ne sont pas encore complètement perceptibles. Les travaux de Kondition Pluriel mais aussi de Obermaier ou de N+N Corsino par exemple, ne font pas qu'explorer les différentes intensités, les différents degrés de la manifestation de ces tensions.

Sur un autre plan – dans les installations – le numérique permet de rendre visible le temps à travers des micro-événements – comme les fréquences sonores ou les fluctuations de lumière – et de le faire sortir, littéralement, de son indifférence<sup>31</sup>. Ici, alors, la question n'est plus seulement de rendre visible l'invisible présent, mais surtout de signaler – à travers ses effets perceptibles – la présence du temps. Et donc, à un certain degré, nous pouvons affirmer que la présence *est* une atmosphère. Avec le concept de gradation de présence, ce que je veux suggérer est que la présence semble s'éloigner de sa relation avec l'espace pour toucher l'intime nature du temps ; même si, peut-être, la présence n'est pas exactement le temps, mais sa vibration devenue visible, sa pulsation devenue audible.

Ce processus présente la scène et le dispositif d'installation comme un champ traversé par des ondes en pulsation continue. Donner à voir le temps comme présence signifie alors prendre conscience de la fragilité d'un rythme, d'un mouvement intermédiaire entre l'apparition et la dissolution, dans lequel s'affirme une dynamique où ce qui est apparemment secondaire, par rapport au corps physique sur la scène, est en réalité la texture de fond (et la tension) qui rend possible l'événement et sa manifestation. En d'autres termes, avec l'application des technologies, les gradations de présence s'organisent sur la scène comme une respiration qui donne conscience non seulement de la présence d'un corps qui devient image plus ou moins familière, mais aussi du fait que toute image du corps est en réalité un processus, que toute matière est un événement, que tout état est un mouvement et que tout élément – aussi bien physique que chromatique et sonore – est un phénomène transitoire, apte à manifester les formes du temps<sup>32</sup>.

Dans ce contexte, la présence peut « incendier » l'air : elle met en résonance les choses pour produire un effet d'écho entre la scène et les corps physiques plongés dans le dispositif. Entrer dans

<sup>31</sup> Cf. A. Cauquelin, *Fréquenter les incorporels*, Paris, PUF, 2006.

<sup>32</sup> Voir C. Buci-Glucksmann, *Esthétique du temps au Japon*, Paris, Galilée, 2001.

cette atmosphère, pour le corps du performeur signifie donc faire cela depuis la *cinquième paroi du temps*. Il signifie pénétrer dans une autre densité temporelle, dans un processus de transformation qui mène d'une culture des objets à une culture des flux où les choses ne s'opposent pas entre elles, mais sont coextensives les unes aux autres dans un même mouvement qui prend forme par degrés, face aux spectateurs.

Insister sur la théorie des gradations de présence signifie penser autrement le fonctionnement des dispositifs performatifs et installatifs. Il est nécessaire d'élargir le concept de présence au-delà du corps pour porter l'attention sur la disposition d'un *état de choses* diffus, et induit par les technologies, où la présence et ses effets se manifestent. On va ici vers une esthétique de l'« œuvre-système »<sup>33</sup> où l'environnement est conçu par le dispositif et activé dans tous ses composants. Les œuvres auxquelles ce principe fait référence sont des champs de force en activité. C'est là - comme dans les œuvres citées - que se croisent tensions cachées et courantes dessinant des champs magnétiques à géométrie variable, capables de changer la température et le rythme de la scène pour attirer l'attention du spectateur. C'est là que prend corps la présence.

Ceci équivaut à affirmer qu'on doit sortir d'une conception de la scène organisée sur l'action (et sur la représentation) parce qu'elle agit en mode superficiel, pour percevoir le fonctionnement d'une autre logique, celle de la transformation, qui travaille en mode souterrain et permet aux gradations de présence d'affleurer. Plutôt qu'être inattendu, comme un événement surgi d'une action par rapport aux données de la situation, l'effet de la transformation est le résultat d'une évolution qui doit être suivi depuis son départ, depuis sa première manifestation.

Cette logique d'articulation implique inévitablement un déplacement radical du point d'observation et une redéfinition des stratégies analytiques : on ne traite plus seulement de *sentir* la présence dans sa complexité et dans les formes qu'elle prend sur scène, mais il s'agit plutôt de multiplier les angles d'observation pour comprendre son point de départ, sa phase de gradation et son point de disparition.

Alors, pour localiser et reconnaître la présence dans cette dimension particulière de la scène, il ne suffit pas seulement de regarder ou d'écouter. C'est comme si la scène technologique invitait le spectateur à aiguïser et réorganiser autrement sa perception ; passer d'une modalité qui procède par formes à une autre qui concerne les intensités<sup>34</sup>. Percevoir l'intensité qui sous-tend les gradations de présence signifie d'accoster l'invisible d'un côté et l'inaudible de l'autre ; ou mieux, de creuser la vision et l'ouïe pour les recomposer sous de nouvelles formes.

<sup>33</sup> F. Forest, *L'œuvre-système invisible*, Paris, L'Harmattan, 2006.

<sup>34</sup> Cf. C. Buci-Glucksmann, *Esthétique de l'éphémère*, cit. Cf. ensuite E. Pitozzi, *L'impermanente trasparenza del tempo. Conversation avec C. Buci-Glucksmann*, « Art'O », n° 20, printemps 2006, pp. 34-40. Voir aussi A. Cauquelin, *Fréquenter les incorporels*, cit.



8.2.3 *Dominique Besson* (2009) ‘Le corps sonore, entre écriture chorégraphique et écriture musicale’.

Besson, Dominique (2009) ‘Le corps sonore, entre écriture chorégraphique et écriture musicale’, article presented at *Journée d’informatique Musicale – JIM’09, 1-3 April, 2009*, Grenoble, France.

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Article have approval to be used

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## LE CORPS SONORE, ENTRE ECRITURE CHOREGRAPHIQUE ET ECRITURE MUSICALE



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### RESUME

Ce texte présente une expérience de collaboration entre une chorégraphe et une compositrice dans le cadre du projet *L'Orgiaque*.

On décrit ici le projet, ses enjeux artistiques, ses protocoles opératoires ainsi que le dispositif sur lequel repose sa mise en œuvre, *le Ring*, un instrument de composition et de spatialisation temps réel, qui place le public dans un cercle de haut-parleurs et permet de capter la matière sonore dans le souffle même des danseuses.

On analyse ainsi les étapes de la création d'un langage commun, de la notion de corps collectif à celle de corps sonore.

### 1. INTRODUCTION

Aujourd'hui il est possible d'observer la matière sonore, de la projeter dans l'espace physique, de manipuler ses composantes, en un mot de l'organiser. Cette nouvelle maniabilité réintroduit le geste dans la pratique compositionnelle et permet d'assister à la naissance de formes inédites, intelligibles mais non toujours prévisibles.

L'imprévisibilité des phénomènes émergents bouscule notre approche de la réalité dans laquelle, comme le dit le physicien Jorge Wagensberg, « nos recherches sont conditionnées par ce que l'on espère découvrir » [11] alors que nos modèles de représentations restent incomplets et qu'ils n'épuisent pas le réel.

Les gestes effectués lors de la fabrication d'un objet sonore, ou lors de sa mise en espace dans l'espace physique, font partie de l'écriture, de la partition.

Par le geste s'opère comme le dit Edgard Morin dans *La Méthode*, « un phénomène d'apprentissage mettant le savoir en cycle » [9] et au cours duquel la conscience intérieure du mouvement se trouve reliée à la générativité du sonore.

Le geste pose la question de savoir dans quelle mesure il faut laisser le temps donner forme aux choses avant de chercher à vouloir les circonstancier.

Les compositeurs (eux aussi) dansent à leur manière dans l'espace sonore. Tchouang-Tseu a dit « n'écoutes pas par ton esprit mais par ton souffle » [10].

C'est précisément à travers ces notions de temps et de souffle que je souhaiterais pouvoir faire part de mon expérience de compositrice lors de ma récente collaboration avec la chorégraphe Isabelle Choinière, dans le cadre de son projet *L'Orgiaque*. [6].

La démarche d'Isabelle Choinière, qui consiste à aborder le mouvement comme un vecteur d'introspection, un moyen d'accéder à un état second où le geste s'autonomise des codes habituels, établis, puis s'auto organise en fonction de ce qu'il révèle, de ce qu'il délie à l'intérieur de supra sensible, trouve une profonde résonance dans ma pratique musicale.

### 2. OBJECTIFS

*Une expérience de déstabilisation sensorielle par questionnement sonore.*

*L'Orgiaque* d'Isabelle Choinière aborde la danse-jeu, soit un état de la sensibilité : « une capacité d'organiser le mouvement d'une manière auto-affective et réflexive, induite par le mouvement lui-même ».

Son « ...approche se veut une méthode de dérèglement raisonné de tous les sens, de l'érotique qui vectorise le corps » [5].

En demandant aux cinq danseuses de cette chorégraphie de laisser leur souffle s'autonomiser, se « languissifier », elle introduit un changement de repère en donnant corps par le son à quelque chose de très intime : la perception intérieure du mouvement.

« Cette extériorisation est une façon de réorganiser de nouveaux chemins à la sensation, mais qui eux, passent par le dehors, ceux passant par le dedans étant la proprioception. Le corps sonore (le son généré en temps réel par les danseuses) est médié, le sonore est organisé par le gestuel. Cette relation est une invitation à une exploration de la sensation par elle-même, un voyage des sens, un ailleurs qui est finalement soi-même. » [5].

### 3. MISE EN ŒUVRE

Vouloir atteindre la notion de corps sonore, en prenant comme matériau de départ des sons engendrés par des danseurs, soulève certaines questions liées aux

codes établis, aux notions de représentation, de temps en musique, d'objet sonore, de forme, d'œuvre.

### 3.1. Les codes établis

La plupart du temps un compositeur s'adresse à ses interprètes au moyen d'un langage codé, une écriture qui s'appuie sur des éléments de vocabulaire, des systèmes de représentation et de notation que seul le musicien sait décrypter. Face à la danse dans un contexte où les danseurs sont aussi les interprètes, le compositeur ne peut pas compter uniquement sur ce langage pour s'adresser à l'imaginaire des danseurs. Car les termes, même s'ils sont parfois partagés, ne véhiculent pas le même champ sémantique selon qu'ils s'adressent à des interprètes musiciens ou à des danseurs.

Il faudra donc avoir recours à des modèles, pour encrer des éléments de vocabulaire commun dans l'imaginaire du corps collectif.

### 3.2. La notion de modèle

Un modèle est un schéma d'organisation théorique qui vise une représentation précise de la musique.

Dans un premier temps, on a principalement cherché à tisser des correspondances entre le mouvement et le temps musical, et à établir un vocabulaire commun permettant d'approcher le langage du corps sonore.

Pour établir ce vocabulaire des exemples sonores didactiques ont été composés, dans lesquels se trouvent consignés divers modes de jeux et qui donnent lieu à des objets sonores singuliers, identifiables et reproductibles par émission vocale. Ces exemples sont tous réalisés à la clarinette. L'instrumentiste travaille ici sans l'embouchure, le corps de l'instrument sert de caisse de résonance, d'amplificateur à des suites de souffles phonétiques.

### 3.3. Le souffle et le temps

Demander à des danseuses de générer des objets sonores tout en assumant leur fonction d'interprète ne va pas de soi.

Il s'agit de faire émerger des objets sonores signifiants, qui se meuvent comme un corps, en utilisant la voix, et plus spécifiquement le souffle, comme prolongement naturel de la *corporité*.

Pour qu'il y ait souffle, il faut qu'il y ait mouvement d'inspiration ou d'expiration.

La particularité du souffle est qu'il est conditionné par notre nature intrinsèque, notre fonctionnement biologique, notre capacité respiratoire.

Cependant, grâce à notre capacité d'identification musculaire à l'objet que l'on cherche à représenter, nous pouvons nous adapter, réguler notre souffle, anticiper.

Pour les danseuses, gérer leur souffle leur permet de mener la figure chorégraphique, de trouver le rythme d'oxygénation nécessaire pour mener le mouvement à son terme.

Le même processus d'identification musculaire à l'objet à représenter survient chez le musicien interprète, pour qui le souffle conditionne la qualité du geste instrumental.

La voix est un instrument particulier car elle repose sur le souffle : pas de son sans le souffle et pas de souffle sans mouvement.

Demander aux danseurs de se servir de leur voix en dansant complexifie la représentation de l'objet à atteindre, puisqu'il faut faire la place aux mouvements musculaires qui vont diriger le souffle vers les objets sonores recherchés, les intégrer dans la performance chorégraphique.

Il faut pouvoir les relier avec ceux qui animent les autres muscles du corps, les inscrire dans le temps de la figure chorégraphique en cours : le compositeur seul ne peut y parvenir, car il n'a pas la connaissance intime du mouvement que partage la chorégraphe avec ses danseuses et les danseuses entre elles. Il faut donc ouvrir le temps, pouvoir laisser la danse donner de son temps.

Cela conduit à penser des formes et des types d'objets sonores qui, lorsqu'ils seront animés d'une vie propre autonome dans leur répétition spatiotemporelle, formeront l'espace sonore. En d'autres termes, organiser un temps qui s'ouvre au corps et qui le révèle.

En laissant le corps collectif aller de son propre rythme vers l'objet sonore, on ouvre la forme.

### 3.4. L'ouverture formelle

En ce qui concerne l'objet sonore, ce partage permet d'assister à la naissance de formes inédites, sans cesse renouvelées mais circonscrites.

Du point de vue musical, ou sonore, ce mode de production est très spécifique car il introduit de l'imprévu sur un ensemble de critères constitutifs de l'objet sonore, comme le temps de début, la durée, le temps de fin, le profil dynamique, le timbre, le registre, l'attaque, le grain...

Or ces critères sont les garants de son identité formelle.

Introduire de l'aléatoire sur les attaques, les durées, les registres des sons constitutifs du corps sonore, en laissant les danseurs explorer leur ressenti selon des registres préalablement circonscrits, permet de rejoindre la notion de forme ouverte.

Par exemple dans *Morça*, l'une des sections de la chorégraphie, les objets sonores spécifiés pour la voix sont des sons produits par des inspirations ou des expirations brèves. Le corps collectif doit explorer l'ouverture du diaphragme, du larynx, de la cavité buccale, et tisser des relations entre les mouvements et les sons produits : ouverture et registre, vitesse et dynamique, à la recherche de quelque modèle, de quelques repères.

On voit à quel point la combinatoire est infinie.

On obtient ainsi un objet sonore polymorphe et changeant doté d'une certaine élasticité et qui s'autorégule comme un corps. Sa projection dans

l'espace physique, son éclatement à la surface de la couronne des huit haut-parleurs agit en retour sur la proprioception des acteurs impliquant la conscience de ce qui se tisse ensemble.

### 3.5. Le corps sonore

Un corps c'est aussi une mémoire, et cette mémoire constitue notre interface avec le réel, l'extérieur. Aussi j'ai proposé à Isabelle Choinière d'introduire dans l'espace composable d'autres matériaux sonores que ceux qui sont émis par le corps collectif afin de permettre au corps sonore de se mouvoir et d'habiter dans divers milieux, comme l'eau, l'air, d'être animé par des rythmes musicaux extérieurs à lui-même, de se diviser, de se démultiplier, de se projeter dans le temps afin d'être tour à tour contenu et contenant.

Ces matériaux sonores complémentaires sont constitués d'échantillons préalablement fabriqués en studio dont les comportements spatio-temporels sont programmés dans des *patches* (tableaux).

Le fait de pouvoir programmer préalablement les comportements spatio-temporels de ces échantillons sonores permet d'introduire dans l'espace composable un « espace sonore fixé » manipulable en tant qu'objet d'une nature autre que celle composée par les sons du corps collectif, de travailler sur plusieurs plans sonores.

On s'en sert pour immerger le corps collectif dans un ressenti extérieur à lui-même et qui l'influence par sa propre métrique, son propre temps musical. Ce sont des espaces sonores musicaux composés à partir de mélismes instrumentaux, forgés en studio.

Le troisième type de matériaux est lui aussi constitué de sons préalablement acquis en studio, mais contrairement aux précédents leur comportement spatio-temporel n'est pas fixé. Ce sont des sons autonomes qui me permettent d'interagir avec les danseuses, de vivre l'expérience du corps collectif, de m'y associer en m'incorporant à mon tour dans le corps sonore.

### 3.6. Spatialisation et traitements

Générer un corps sonore, en prenant comme matériau de départ des sons générés par les danseuses, questionne la notion d'espace sonore dans laquelle plusieurs natures d'espace doivent pouvoir cohabiter simultanément : c'est le propre des musiques électroacoustiques que de mélanger, mixer ensemble des portions d'espaces-temps, rapportées, constituées d'objets sonores variés dans l'espace et dans le temps (proches, lointains, localisés, diffus...), de manière à ce qu'ils puissent s'envelopper les uns les autres et non être disposés les uns à côté des autres.

Les objets sonores émis par les danseuses, mêmes s'ils diffèrent dans leur typologie (continus, itératifs, lisses, granuleux, mélodiques...), sont semblables au niveau de leur image spatiale, puisqu'ils sont tous captés à égale distance de leur source émettrice (la distance qui sépare la bouche de la danseuse du micro aérien placé

sur le haut de son front). Ils véhiculeront donc tous de fait la même image d'espace.

La spatialisation des sons, qui consiste à gérer le comportement spatio-temporel des sources sonores dans l'espace physique, permet d'introduire les notions de relief, de distance et de trajectoire, de rendre perceptible l'écoulement du temps par le mouvement lui-même, d'introduire la dramaturgie du mouvement.

Par ailleurs, les traitements en temps réel que nous allons expérimenter et implémenter dans la prochaine étape de réalisation permettront d'insuffler des images d'espaces dans les sons captés en direct, par exemple on sait que l'on peut donner la sensation d'un déplacement par simple manipulation des coefficients de réverbération et d'ouverture de la bande passante, ou bien encore de détourner un flux pour générer un matériau sonore abstrait, afin d'introduire des situations inédites où la convergence du virtuel et du physique permet d'instaurer un jeu entre différents plans sonores.

#### 4. LE DISPOSITIF

Lorsque je l'ai rencontrée, Isabelle Choinière avait déjà mené une première expérience de synesthésie sonore en équipant ses danseuses de micros aériens afin d'étudier le rendu sonore de leurs souffles et elle cherchait à donner corps à ces souffles en s'intéressant aux dispositifs de projections pluri-phoniques.

Très vite nous avons entrepris de collaborer car nous nous sommes retrouvés en phase dans notre approche et mon outil de composition spatiale pouvait constituer le dispositif de médiation nécessaire à la mise en œuvre de l'expérience.

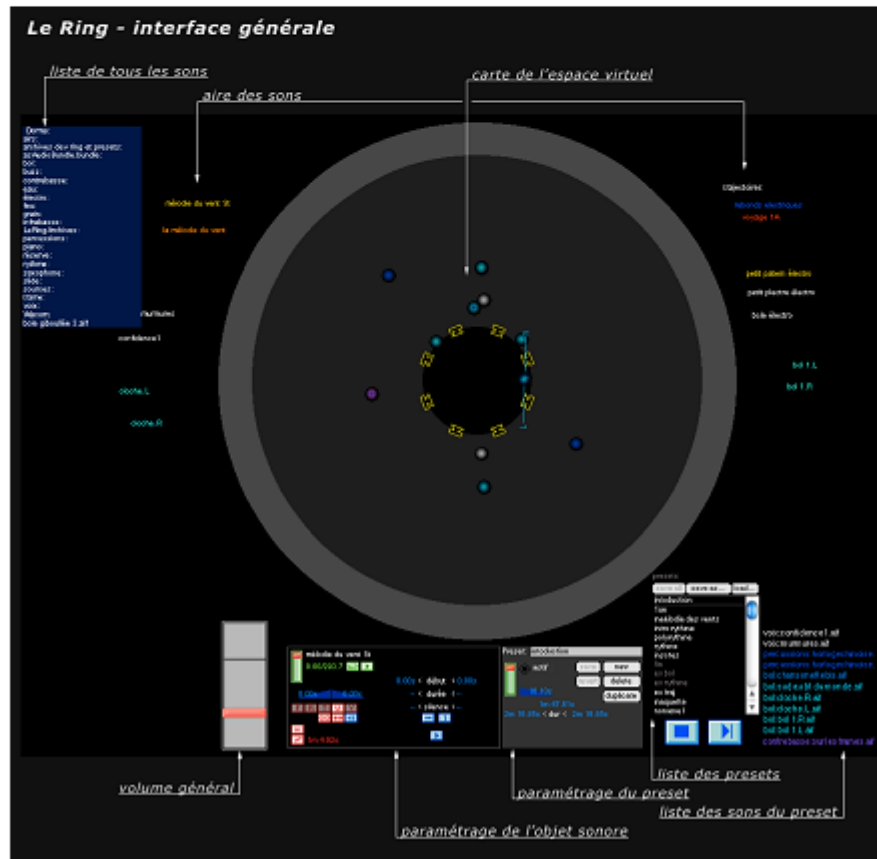
*Le Ring* [3] est un instrument temps réel de composition spatiale qui me permet, en public, de piloter dans l'espace des sources sonores captées sur le plateau ou préalablement produites en studio.

Dans sa forme actuelle, *Le Ring* est basé sur une couronne de huit haut-parleurs identiques régulièrement répartis sur un cercle et orientés de façon concentrique. On est donc dans un plan horizontal.

Le rendu sonore fonctionne actuellement par contrôle de l'amplitude et de la phase de la contribution de chaque source dans chacun des haut-parleurs, qu'on peut considérer comme des microphones dans l'espace virtuel et des sources dans l'espace réel. Le modèle de spatialisation ne prend en compte pour l'instant que l'onde directe entre chaque source et chaque haut-parleur.

L'interface graphique de composition est principalement spatiale (et non temporelle comme dans un outil de montage). Le système permet l'animation d'un certain nombre de sources mono ou stéréo, selon des trajectoires programmées (va et vient, cercle,...) ou dessinées librement à main levée sur une carte de l'espace virtuel.

Le séquençage temporel est structuré en tableaux (presets) composés d'objets sonores, programmables dans leur itération temporelle et spatiale. Le moteur de séquençage est donc basé sur la notion d'objet autonome, doté d'un comportement temporel programmé (par des paramètres numériques de durée, sur lesquels on peut faire intervenir une part d'aléatoire).







Un éditeur de trajectoire, utilisant une tablette graphique, permet d'introduire la notion d'enveloppe spatiale, où l'amplitude de la source est contrôlée par la pression sur le stylet, un peu comme le ferait un peintre. On peut ainsi travailler le geste instrumental tout en observant son impact dans l'espace sonore en temps réel.



Figure 1. Représentation d'une trajectoire.

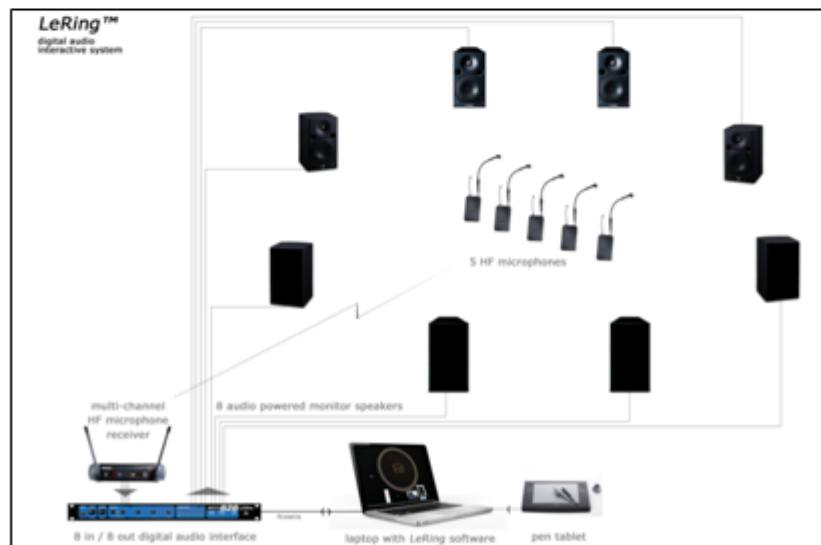
### Développements en cours

Récemment nous avons mise en œuvre un développement spécifique qui consiste à utiliser les entrées de la carte son (8 entrées dans le cas de la MOTU 828), considérées comme des sources que l'on peut positionner et déplacer dans l'aire de jeu comme les échantillons actuels. Cette ouverture a de nombreux avantages : elle ouvre la porte aux outils de synthèse et de traitement existants (Protools, ou équivalent et leurs plug-ins, Max, etc.), elle permet aussi d'étendre le Ring à une utilisation live, dans laquelle les sources entrantes sont issus d'instruments acoustiques ou électroniques, joués en temps réel.

Cette orientation, cohérente avec le travail que nous menons actuellement sur la mise au point du contrôle de la phase de l'onde directe, oriente le Ring dans la direction d'un système ouvert de spatialisation temps réel doté de fonctions de mémorisation graduelle du signal et des trajectoires.

Interfacées comme des entrées temps réel dans le Ring, les cinq sources sonores générées par les danseuses deviennent donc pilotables dans l'espace et dans le temps.

Le dispositif scénique qui entoure l'auditeur introduit ici une situation d'écoute singulière où celui-ci ne peut plus localiser visuellement toutes les sources en présence. Il se retrouve enveloppé, immergé au cœur du corps sonore et les mouvements qui s'y déploient introduisent un surplus de « *matérialité sensible* ».



## 5. MODES DE JEUX

Munies de cette possibilité, nous avons imaginé et scénarisé des protocoles d'expérimentation sensorielle en définissant des règles de comportements : des modes de jeux qui nous ont conduit à la frontière du sensible.

Liés au dispositif et à la diversification des matériaux sonores se développent plusieurs modes de jeux.

### 5.1. Cas n°1 - Le corps collectif interagit sur la partition sonore

#### *Le ~~chorus~~ - Projection Homothétique*

Les danseuses dirigent le geste du compositeur interprète à qui il revient au cours de la performance de ~~médier~~ les sons du corps collectif en fonction de ses mouvements et de ses déplacements afin de créer, tout ou en partie, le corps sonore.

Le compositeur opère une translation homothétique, en projetant dans l'espace plan délimité par la couronne des huit haut-parleurs disposés autour du public la position et les déplacements des sources sonores générées par les danseuses, en contrôlant leur niveau de sortie sur chacun des huit haut-parleurs.

On obtient ainsi une sorte de forme mouvante, animée, douée d'une vie propre qui s'auto-organise au sens organique : un corps sonore.

Du point de vue du compositeur, la spécificité de ce mode d'interaction tient dans le fait de devoir suivre simultanément les évolutions des cinq points du corps collectif (en réalité cinq comportements spatio-temporels distincts) alors que l'on ne peut en isoler naturellement qu'un seul en même temps.

Dans cette situation, il faut apprendre à lire le mouvement en détournant les limites de la perception des phénomènes simultanés, s'orienter dans l'espace de la figure chorégraphique afin de pouvoir en donner lecture à son tour, en la sculptant dans l'espace acoustique, en en donnant une projection, un agrandissement...

Il y a alors médiation à travers et par le compositeur interprète.

On aurait pu confier cette tâche à un système qui opérerait par capteurs de mouvement, mais ce n'est volontairement pas le cas ici, car ce qui nous intéresse c'est d'explorer une nouvelle relation de l'individu au collectif et à l'individuel.

Le corps collectif est très sensible très réactif à son corps sonore.

C'est un peu comme s'il s'y logeait, s'y prolongeait, découvrirait son étendu, son infini.

Il y a quelque chose de l'ordre du flux, de la sève qui monte qui se répand ou qui se heurte.

Il faut pouvoir décomposer chaque figure chorégraphique, bien connaître chaque mouvement, chaque geste, les penser, les visualiser, les vivre de l'intérieur pour pouvoir s'identifier musculairement à

l'objet recherché, afin d'optimiser son geste lors des performances. Le compositeur devient ici l'interprète du corps collectif.

La relation qui s'installe avec les danseuses est intime, presque affective. Cette responsabilité nous connecte avec une forme de ressenti kinesthésique du mouvement des cinq membres du corps collectif et qui oriente le geste de composition spatial.

Le propre de cette écriture est que son temps est partagé, qu'il est dicté par le corps et que les choses ne se reproduisent jamais à l'identique. Au cours de chaque performance, l'imprévisibilité du mouvement nous oblige à vivre l'expérience du geste, du corps collectif et cette expérience réellement notre imaginaire en nous ouvrant de nouveaux horizons.

### 5.2. Cas n°2 - L'espace sonore n'est pas corrélé spatialement à la partition chorégraphique

#### *L'espace sonore agit sur le ressenti du corps collectif*

C'est le cas le plus classique.

L'espace sonore ne conditionne pas les déplacements dans l'espace physique du corps collectif.

Ici il n'y a pas de corrélation entre la localisation auditive des sources sonores et la localisation des danseurs.

L'espace sonore génère un univers abstrait dans lequel s'opère une certaine dramaturgie du mouvement. Par exemple la section qui suit le ~~chorus~~, et que l'on a nommée *La Vague*, est une section purement musicale, constituée de sons tenus, tissés ensembles, animés de phénomènes ondulatoires.

Une fois déployée dans l'espace, elle influence le corps collectif, elle s'imisce dans son rythme biologique et le relie à sa propre respiration, son propre souffle. Ici le corps sonore est musique.

### 5.3. Cas n°3 - L'espace sonore est corrélé spatialement à la partition chorégraphique, il fait l'objet d'une indexation topique.

Dans ce protocole, le corps sonore pilote les déplacements sur le tapis de danse du corps collectif avec ou sans la participation du compositeur.

Plusieurs situations peuvent advenir et fournir les éléments d'une combinatoire.

En voici quelques-unes.

#### 5.3.1. Situation 1

L'espace sonore est fixé, c'est-à-dire qu'il est pré-composé et que sa mise en espace est prédéfinie en fonction de l'intention chorégraphique.

Par exemple, dans la section que l'on a appelée *La Masse*, l'espace sonore est constitué de sons distincts qui se détachent de l'ensemble et se mettent à tourner dans l'espace créant un rythme, une bascule oscillante de

gauche à droite, d'avant en arrière, qui s'empare du corps collectif comme s'il était tiré par un fil invisible.

La chorégraphe partitionne son corps collectif en regard de ce mode de jeu.

Elle spécifie par son écriture chorégraphique qui fait quoi.

Ici elle a choisi de ne faire se détacher ensemble tour à tour que deux ou trois membres du corps collectif, comme s'ils étaient soumis à l'attraction d'une force incompressible et qui les aspirait, les faisait rouler sur eux-mêmes, les mélangeait avant de les quitter et de les laisser rejoindre leurs orbites initiales.

### 5.3.2. Situation 2

L'espace sonore est fixé, c'est-à-dire composé à l'avance, mais sa mise en espace n'est pas totalement close. Ici, contrairement à la situation précédente, les sons, les objets sonores ne font pas tous l'objet d'un partitionnement spatio-temporel préalablement défini.

Certains objets sont prés composés et interagissent avec le déplacement du corps collectif selon une partition prédéfinie à l'avance d'autres sont en attente.

Les objets sonores en attente sont des objets spécifiques destinés à établir une interaction avec un ou deux danseurs en même temps. Ils permettent au compositeur de s'emparer en temps réel d'un ou plusieurs point du corps collectif, de les en extraire, de les faire se distinguer au cours d'une performance qui s'apparente au solo et d'installer un véritable dialogue avec le ou les danseurs concernés. Au cours de cet échange, le danseur est libre de sa trajectoire au sol dans les limites fixées par le chorégraphe.

Il peut choisir de se laisser guider dans l'espace, de prolonger le geste spatial du compositeur, d'en donner lecture sur le tapis de danse ou au contraire de le fuir, de s'en éloigner. Dans tous les cas s'installe une écriture polyphonique, contrapuntique où se dessinent des mouvements parallèles, obliques ou contraires.

## 6. CONCLUSION

Dans ce dispositif, le public se trouve à la fois disposé autour du corps collectif des danseuses et plongé dans le corps sonore produit par la couronne de haut-parleurs.

Dans l'état actuel, la conduite de la relation essentielle entre l'extérieur et l'intérieur de ce corps repose principalement sur l'action du compositeur-interprète, qui doit faire face à une complexité croissante des relations spatiales et temporelles des objets qu'il manipule.

Notre démarche expérimentale nous a permis d'éprouver cette complexité de façon souple et intuitive, grâce à un système simple et robuste, mais encore limité dans sa combinatoire.

Nous travaillons actuellement à des fonctions de mémorisation des sources sonores captées sur le plateau et des trajectoires tracées au cours de la performance, de

façon à permettre une structuration de l'écriture et de l'interprétation, tout en conservant cette capacité de création sensible dans l'instant.

C'est parce qu'il y a un juste équilibre entre l'investigation créatrice et les limites ressenties du système que nous savons aujourd'hui poursuivre nos développements.

Il s'agit en particulier de traitements plus élaborés sur les sources sonores captées en temps réel et de l'usage d'une surface tactile multi-touch, interfacée avec le Ring, et qui devrait permettre au compositeur-interprète d'interagir simultanément avec toutes les sources du corps sonore en jouant avec ses dix doigts.

Le compositeur-interprète devra étendre sa gestuelle instrumentale en fonction de l'évolution de l'instrument, par un travail d'apprentissage lié au protocole chorégraphique qui permettra d'entrevoir puis de fixer l'écriture de nouvelles combinatoires.

En conclusion, cette expérience constitue une étape importante liée à l'apprentissage du corps, et des techniques dans leurs diversités.

Elle nous a permis de mettre en place de véritables interactions tant au niveau de l'écriture, que de l'interprétation.

L'expérience de situations où l'on se trouve en position d'inter-acteur nous renseigne sur l'indicible, le non quantifiable, le sensible, tout en nous permettant de repousser les limites de nos modèles.

## 7. REFERENCES

- [1] Besson Dominique. "La...Transcription des musiques électroacoustiques, que noter, comment et pourquoi?", Revue Analyse Musicale, n°24, juin 1991.
- [2] Besson Dominique. Les Musicographies. CDROM co-production INA-GRM, Les 38èmes Rugissants, Mois du Graphisme d'Echirolles, édition INA/GRM, 1995.
- [3] Besson Dominique. Une exploration de l'espace musical, approche historique et expérimentale dans le cadre d'un instrument dédié à la spatialisation en temps réel : le Ring Mémoire de DEA, Direction Horacio Vajgonna, Université PARIS VIII Vincennes-Saint Denis, Année 2004-2005.
- [4] Besson Dominique. Paroles Trouvées. Site internet : [http://tqp.free.fr/Paroles\\_Trouvees/](http://tqp.free.fr/Paroles_Trouvees/)
- [5] Choinière, Isabelle. (2009). "À la recherche d'un nouveau modèle chorégraphique adapté à notre époque. L'orgiaque : une stratégie via les technologies pour renouveler l'expérience sensorielle et perceptuelle du monde". Actes de la IXième Conférence Internationale de recherche du Planetary Collegium: Consciousness Reframed / New Realities: Being Syncretic, qui a eu lieu à University of Applied Arts Vienna, à Vienne, en Autriche du 3 au 5 juillet 2008. Édition Springer, Wien/New York, 2009. ISBN : 978-3-211-78890-5



- [6] Choinière, Isabelle. corps indice. Site internet : <http://www.corpsindice.com/>
- [7] Morin, Edgar. La méthode (t.5.1), L'identité humaine. Le seuil, Nouvelle édition, collection Points, 2003.
- [8] Morin, Edgar. La méthode (t.6), L'Éthique complexe. Le seuil, Paris.
- [9] Schmitt, Antoine. Gratin. Site internet : <http://www.gratin.org/as/>
- [10] Tchouang-tseu. Le Rêve du papillon. Traduction de Jean-Jacques Lafitte. Albin Michel, Paris, 2002.
- [11] Wagensberg, Jorge. L'âme de la méduse Idées sur la complexité du monde. Le Seuil, Paris 1997.

8.2.4 *Enrico Pitozzi* (2009a) ‘Spazio stereoscopico per corpo sonoro. Conversazione con Isabelle Choinière’.

Pitozzi, Enrico (2009a) ‘Spazio stereoscopico per corpo sonoro. Conversazione con Isabelle Choinière’, *In: Art’O*, no. 28, estate 2009, Bologna, Italy, pp. 58-65.

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## Spazio stereoscopico per corpo sonoro

Conversazione con Isabelle Choinière  
di Enrico Pitozzi

**Enrico Pitozzi:** *Le tue composizioni indagano le relazioni tra il corpo e i dispositivi tecnologici. Ne *La démente des anges* (2002) hai lavorato con una presenza corporea via rete internet, con quella che potremmo definire una forma di presenza a distanza. Potresti soffermarti, anche da un punto di vista tecnico, sulla realizzazione e le implicazioni estetiche di questo lavoro?*

**Isabelle Choinière:** Per sviluppare questo progetto ho lavorato con Thierry Fournier (musicista e informatico formatosi, tra l'altro, all'IRCAM di Parigi). Insieme abbiamo sviluppato un sistema che permette di trattare le informazioni captate in tempo reale via internet e attraverso una specifica linea ISDN per il trattamento di dati che provengono dal movimento.

Due le dimensioni principali sulle quali siamo intervenuti: il tempo e lo spazio.

Da un punto di vista della struttura del tempo, parliamo di dati che provengono dal movimento e dal corpo e che sono trattati secondo modalità di trasmissione in rete. Dunque, in questo tipo di intervento, ogni ritardo nella trasmissione ha una precisa ripercussione sulla qualità del movimento che viene visualizzato. Per esempio se il flusso dei dati è intervallato o ritardato, il risultato visualizzato sarà un movimento del corpo piuttosto meccanico, mentre se il flusso è costante e regolare la visualizzazione restituirà un movimento decisamente più organico.

È in questo lavoro che abbiamo cominciato a sperimentare diverse strategie inerenti la percezione del corpo. Posso qui mettere in evidenza tre diversi piani operativi.

Innanzitutto la presenza mediatica: per rendere conto dell'aspetto performativo del corpo mediatici trasmessi in tempo reale in immagine e suono abbiamo lavorato con una danzatrice, Sophie Michaud, che aveva già una esperienza di mediatizzazione del suo corpo. Ciò che ci interessava era trasmettere l'impressione che quello che appariva sullo schermo fosse un vero corpo, pulsante, organico.

Il secondo aspetto riguarda invece l'intervento sulla trasmissione dei dati via rete; questo è il punto in cui si interviene sulla qualità della presenza mediatica. Come osservato in precedenza, è sempre un problema di sfasamento, di perdita di dati. Era necessaria una strategia per ovviare a questo problema e ottenere una presenza significativamente carismatica, anche se a distanza e via schermo. Per ottenere questo abbiamo processato i dati provenienti dalla rete per correggere certe disfunzioni attraverso una piattaforma MAX, vero cervello elettronico in grado di controllare tutti gli aspetti tecnologici dello spettacolo via rete. Contrariamente, nel lavoro con la danzatrice, abbiamo invece deciso di mantenere un leggero ritardo nel trattamento dei suoi dati; questo era necessario per



Isabelle Choinière, *La démente des anges*, 2002. Foto: Frédérique Bolté



**Isabelle Choinière** è fondatrice e direttrice della compagnia "Corps Indice" di Montréal (Canada) con la quale sviluppa progetti di ricerca sulle relazioni tra la danza e le tecnologie. Dal 1995 le sue creazioni sono presenti in diversi festival internazionali: in Francia, Germania, Danimarca, Brasile, USA. Tra i suoi principali lavori possiamo ricordare *Le Partage des peaux I* (1994), *Communion (Le Partage des peaux II)* (1995-1996) – *La Démence des Anges* (2002). Al lavoro come coreografa affianca anche un intenso lavoro di ricerca; i suoi testi sono stati pubblicati nel 2008 presso l'University of Applied Arts di Vienna. Nel 2009 apparirà un suo contributo nel libro *Point of being* a cura di Derrick de Kerckhove, direttore del McLuhan Program dell'Università di Toronto. Nel settembre 2008 è stata invitata, come membro associato, dall'Università di Seoul in Corea del Sud per prendere parte alle produzioni del Centre Yonsei Imagination-Science-Technologie (Y-IST) de l'Institut d'Art Médiatique, Université Yonsei. Dalla primavera 2005 è impegnata in un dottorato nella cornice del *Center for Advanced Inquiry in the Integrative Arts (CAiIA)* affiliato all'Università di Plymouth in Inghilterra sotto la direzione di Roy Ascott direttore e fondatore del Planetary Collegium e di Armando Menicacci dell'Università di Paris VIII. Nel 2006 ha intrapreso lo sviluppo di un nuovo progetto dal nome *Meat Paradoxe* dedicato al concetto di *corpo sonoro collettivo*, lavorando in collaborazione con la compositrice francese Dominique Besson.

dare il senso della presenza di un corpo che proviene dalla rete, in tempo reale (come contrappunto a un'immagine del corpo pre-registrata e diffusa in video).

Il terzo aspetto riguarda invece la dimensione tecnologica: accennerò solo velocemente a questo punto, ma è cruciale per lo sviluppo della performance. Per favorire l'espressione e la percezione di un corpo vivente, organico, abbiamo dovuto testare un'alta quantità di proiettori sia analogici che digitali privilegiando, alla fine, un proiettore a tubo perché la qualità della luce era completamente diversa. Si tratta di una luce viva, emozionale, in grado di restituire un'organicità anche se il corpo è, in questo caso, fatto di onde luminose, vibranti. L'impressione è che la luce respiri ed i colori siano ricchi e luminosi, mentre nei proiettori digitali la luce è come spenta, depotenziata.

È all'interno di questo processo su un corpo *altro* che è stato necessario lavorare sulle diverse dimensioni dello spazio. Dimensioni complementari e simultanee. Uno spazio reale davanti al pubblico, e uno spazio lontano – molto lontano, anche in un altro continente o nella stanza accanto poco importa – presentato attraverso la proiezione di *tracce di un altro corpo*.

**E. P.:** *In realtà questo corpo di cui parli è un corpo traccia, un presenza che si dà per gradi e partecipa a un processo costante di moltiplicazione...*

**I. C.:** ...in effetti credo che ne *La démente des Anges* ci siano diverse dimensioni di presenza. Sì, ci sono le tracce, ma sono soprattutto tracce di carattere luminoso – corpi di luce – che amplificano una regione e lasciano scoperte altre, creando *buchi neri*. Questa idea di *corpo nero* mi viene da un'attenta lettura del testo di Régis Debray *Vie et mort de l'Image*. Nella *Démence des anges* mi interessava riflettere su uno spostamento della dimensione del sacro a favore delle tecnologie; in modo più specifico sull'idea di demiurgo, sull'essere in diversi posti allo stesso tempo. Debray, nel libro, fa un'indagine approfondita dell'evoluzione della rappresentazione del corpo occidentale nella storia del sacro, più precisamente nella tradizione giudaico-cristiana. Con il *light designer* François Roupinian abbiamo lavorato alla creazione di un corpo luminoso che fosse in grado di restituire questa tensione sacrale, emotivamente coinvolgente come immagine. Ne è derivato un corpo-aura; ma un corpo di questo tipo, inclinando solo un po' lo sguardo, diventa un corpo nero, una massa come un negativo del corpo.

C'è anche una presenza strettamente sonora. Le voci e i gesti delle interpreti sono captate da una serie di microfoni e sensori posizionati sui loro corpi, e questi dati sono trasferiti simultaneamente nello spazio della performance e in rete per formare quello che



Isabelle Choinière, *La démenche des anges*, 2002. Foto: Frédérique Bollé

menti di destabilizzazione dell'assetto percettivo abituale. Evidentemente si tratta di un vero processo di trasformazione della natura stessa del corpo. In *Communion* ho lavorato la relazione con il suono in un rapporto di casualità ("tring" e diverse dinamiche di controllo in una dimensione di continuità).

Nella *Démence des anges*, ho cercato di approfondire questo processo. Per farlo ho dovuto sviluppare una serie particolare di sensori da applicare al corpo. Avevo la necessità di lavorare con captori che mi dessero la possibilità di comporre e captare un movimento in maniera decisamente più sottile, lenta, e che nello stesso tempo mi permettessero di lavorare invece sull'opposto, in una dinamica di accelerazione o frammentazione del flusso. Dovevo avere accesso a tutta una gamma di dinamiche di movimento. Questi captori

potrei definire un *duo* a distanza. È come se le due interpreti generassero e si scambiassero, in tempo reale, il suono e le immagini che provengono dalla composizione dei movimenti producendo una sorta di *persistenza retinica* della loro immagine nello spettatore. Possiamo quindi vedere e sentire ogni interprete, *presente* nello spazio dell'altra. Questo processo invita a una riconfigurazione della percezione dei performer in relazione all'azione e crea una sovrapposizione e confusione di dimensioni *reali*.

**E. P.:** *In diversi interventi hai parlato, rispetto al tuo lavoro, di corpo sonoro; si tratta qui di un divenire sonoro del corpo; potresti soffermarti su questo aspetto particolare della tua produzione?*

**I. C.:** Per fare una breve ricapitolazione di questo concetto devo partire dal mio primo lavoro; nella *Démence des anges* continuavo il lavoro avviato con *Communion* (1996) sul concetto di *corpo sonoro*. A quel tempo già m'interrogavo sulle possibilità di ottenere un *corpo sonoro* a partire dal corpo reale del danzatore. Ma questo corpo sonoro non è propriamente un doppio, piuttosto è una nuova manifestazione che proviene da un intervento sull'assetto percettivo del corpo – la modalità attraverso la quale sentiamo con i nostri sensi – sviluppato grazie all'influenza delle tecnologie come ele-



sono quindi stati progettati per permettere una vera scrittura mutante, per poter accedere a tutti i possibili registri di qualità del gesto per creare delle sonorità e un movimento in situazione di totale interdipendenza.

**E. P.:** *Nel tuo attuale processo di creazione la direzione è decisamente più accentuata verso l'organizzazione di un movimento sonorizzato.*

**I. C.:** Sì, è solo oggi – con lo sviluppo della nuova creazione che ha visto diverse tappe preparatorie prima di prendere la forma che va oggi sotto il titolo di *Meat Paradoxe* – che i mezzi tecnologici per arricchire sia la corporeità che la dimensione del corpo sonoro sono stati sviluppati. Nelle diverse tappe di lavoro ho sempre una necessità formale: uscire dalla relazione strumentale con le tecnologie. Quindi è come rivendicare con fermezza la necessità di una relazione profonda tra le tecnologie e la corporeità per poter intervenire e modificare, dal punto di vista della sua organizzazione percettiva, la corporeità stessa. E quindi produrre un gesto nuovo.

Nella seconda fase di lavoro che è stata sviluppata qui a Montréal presso l'UQAM e in Francia, presso il Centre des arts d'Enghien, abbiamo sviluppato l'idea della sinestesia sonora. Era dunque necessario trovare una relazione tra il corpo collettivo delle performer in movimento e la creazione sonora in tempo reale. È qui che è emerso per la prima volta il concetto di *corpo sonoro collettivo*, un modo per riflettere su una struttura coreografica e una dinamica artistica che si sofferma sulla complessità e l'interconnessione. Le danzatrici hanno potuto sviluppare una sensorialità diffusa, sia a livello del movimento che a livello della produzione sonora in tempo reale, ma anche a livello delle relazioni che queste diverse entità intrattenevano per dare forma alla performance.

Tuttavia è solo a partire dal mio incontro con la compositrice francese Dominique Besson, nel 2007, che questo concetto di *corpo sonoro* ha potuto trovare un nuovo e decisivo sviluppo dal punto di vista della composizione sonora. Dominique è interessata, esattamente come me, a sviluppare un laboratorio in cui le espressioni artistiche vengano modificate dalle esperienze della trasformazione della corporeità. Nell'aprile 2008 abbiamo lavorato presso il CDC (Centre de développement chorégraphique de Grenoble) e abbiamo sviluppato una nuova dinamica di integrazione delle tecnologie. Alla fine di questo soggiorno il lavoro ha preso il titolo di *Meat Paradoxe*. È qui che Dominique ha sviluppato un processo di trattamento dati in tempo reale attraverso il suo software *Ring*<sup>1</sup>. Quando parlo di corpo sonoro faccio dunque riferimento – in primo luogo – a una dimensione del corpo che è originata in tempo reale dalle danzatrici, dunque che si iscrive perfettamente in un contesto di coreografia *allargata* che sto elaborando in questo momento. Il corpo sonoro è dunque un'emanazione, una dilatazione del corpo reale; ne costituisce una vibrazione alla quale rinvio, da un punto di vista sensoriale, per comporre la partitura.

**E. P.:** *Questo lavoro sulla dimensione sonora del corpo implica necessariamente un riposizionamento dell'assetto sensoriale ed emotivo delle performer nella direzione di una nuova geografia della percezione.*



Isabelle Choinière\_3ème création, phase 2, 2006/8\_ Foto: Hugo Lafrance



I. C.: Ciò che è estremamente interessante, in questa prospettiva, è che lavorando sul corpo sonoro possiamo intervenire – per rinnovarla – sulla sensorialità e sull’assetto percettivo delle performer. Questo porta, da un lato, ad abbandonare le modalità di composizione già sperimentate e quindi aprire a un gesto in continua trasformazione. È qui che la sensorialità si riorganizza, l’interiorità si fa *mediatica*. Con questo intendo dire che siamo di fronte a un’interiorità che si modifica, che è evolutiva e si trasforma in relazione alla destabilizzazione sensoriale che le tecnologie provocano. Questo ci permette di uscire dalla sclerosi coreografica. Le tecnologie devono rinnovare l’esperienza della corporeità e, in relazione a questo, lavorare sulla dimensione della sensorialità e sugli stati emozionali che questa può produrre. È un modo per degerarchizzare il corpo. Ciò che succede tra il corpo e la tecnologia non è una relazione esterna, il dispositivo deve fondersi nel processo di composizione.

E. P.: Questo aspetto transitorio e modificativo della corporeità mette in gioco – radicalmente – anche la nozione di spazio. Puoi soffermarti su questo aspetto?

I. C.: Cerco sempre di comporre in relazione allo spazio; tuttavia questa corrispondenza non deve essere formale e unitaria ma *relativa*, perché è legata all’esperienza del corpo. Dopo l’incontro con Dominique – fortemente interessata alla relazione del suono con lo spazio – abbiamo potuto sviluppare una vera relazione *relativa* con lo spazio del suono, con la sua *spazializzazione*. È come se il suono giocasse il ruolo di una danzatrice aggiunta. Partecipa all’organizzazione del *corpo collettivo sonoro*.

Siamo dunque in una forma d’astrazione della dimensione cartesiana dello spazio, a favore di una



nozione corporea di quest'ultimo; una nozione, ancora una volta, relativa. Relativa rispetto all'organizzazione dello spostamento nello spazio delle danzatrici all'unisono per formare un vero e proprio *corpo collettivo*, così come nel lavoro dell'artista brasiliana Lygia Clark.

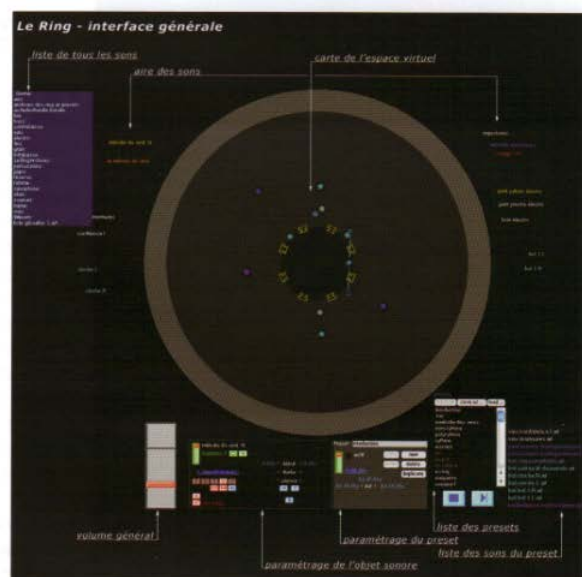
Nella *3eme création, phase 2* (2006), la ridefinizione – in ogni momento – della relazione tra le performer nello spazio ha prodotto, di conseguenza, un'altra struttura coreografica e un altro tipo di organizzazione di figure di spazio per generale il soundscape della performance.

Si tratta dunque di lavorare sul ritmo e sul posizionamento delle danzatrici nello spazio, poiché la loro relazione spaziale cambia continuamente, e di organizzare una struttura tridimensionale del gesto e delle inter-relazioni, così come delle figure sonore nello spazio. Entrambe queste dimensioni sono concepite per *propagazione* verso lo spettatore, tendono verso il riassetto della sua percezione spaziale e sensoriale.

E. P.: *Da un punto di vista del dispositivo, come è stato realizzato tecnicamente?*

I. C.: A partire dalla seconda fase di lavoro per comporre il dispositivo abbiamo utilizzato essenzialmente microfoni senza fili; questi microfoni captano il respiro delle danzatrici per elaborarlo successivamente sotto forma sonora. Questo ha sviluppato un principio di *propriocezione sonora* o di *sinestesia sonora* che partecipa alla complessità della dinamica del corpo collettivo disegnato dalla partitura coreografica; ciò ha una risonanza con il concetto di corpo sonoro del lavoro, un livello di complessità, potremmo dire, ancorato nel principio del movimento.

Se questo riguarda la captazione del corpo delle performer, al suolo abbiamo posizionato sensori interattivi in grado di rilevare le vibrazioni del movimento. Entrambe queste onde sonore si propagano compenetrandosi; è la forma di organicità del sistema che può essere dinamizzata e amplificata per creare un nuovo tipo di *propriocezione sonora*. La prima forma di captazione è legata al soffio o alla dinamica di certi gesti che passano, in particolare, per l'articolazione delle parti inferiori, come le gambe. Il vantaggio di questo dispositivo è che le vibrazioni vanno a formare come una ragnatela che permette alle cinque danzatrici in movimento di avere una percezione cinestetica dei loro corpi e allo stesso tempo restituire il corpo collettivo in movimento sotto forma di suono. Tuttavia qui non siamo ancora in un vero lavoro di composizione sul suono; è solo nella fase successiva, con l'intervento di Dominique Besson, che siamo intervenute su una serie di micro-variazioni per il software *Ring*, liberando le possibilità del suono nella composizione. Come dice Dominique Besson, "il Ring si orienta verso una direzione di sistema aperto di spazializzazione in tempo reale di funzioni di memorizzazione gradualmente del segnale e delle traiettorie. Interfacciate come entrate nel sistema Ring, le fonti sonore generate dalle danzatrici diventano manipolabili nello spazio e nel tempo"<sup>2</sup>.





E. P.: Questo implica una diversa organizzazione della temporalità del movimento. Potresti soffermarti su questo aspetto di Meat Paradoxe?

I. C.: Mi interessa delineare un nuovo tipo di temporalità; mi interessa una certa lentezza che sfiora l'immobilità, che dà l'idea di un tempo che non passa, come sospeso. Questo è inserito, nei miei lavori, all'interno di una più ampia strategia di degerarchizzazione della struttura del corpo, in cui l'interesse generale è intercalato in un movimento collettivo fatto di diversi contatti, divisioni. Mi interessa un altro tipo di temporalità, se vuoi collettiva, perché non è legata a un solo corpo e dunque all'articolazione di un solo movimento, ma piuttosto alla costruzione e alla relazione di cinque movimenti e temporalità completamente differenti le une dalle altre, che possono andare all'unisono ma anche diversificarsi, incontrarsi e separarsi. Questa temporalità è legata a un modo di auto-organizzazione fondato su una strategia di movimento transitorio, come in Trisha Brown; fondato su una radicalizzazione delle indicazioni di Steve Paxton e della contact-improvisation. È la direzione che guarda a un corpo tattile. Quindi l'aspetto sul quale mi oriento è quello di una temporalità complessiva e questo comporta un lavoro sulla risonanza tra temporalità diverse.

E. P.: Ancora una domanda sullo spazio, meglio, sulla fruizione ravvicinata da parte del pubblico. Tu parli di massa del corpo, che è una riformulazione della forma del corpo. La prossimità spaziale tra performer e spettatore è una strategia per ottenere questa decostruzione della forma. Puoi soffermarti su questo aspetto?

I. C.: Stiamo cercando di studiare diverse modalità di ricezione di questo materiale sensoriale. Il pubblico è situato come in un'arena, circondato da una disposizione del suono diffuso da otto altoparlanti. Si tratta di organizzare una situazione immersiva. Il pubblico è al centro del dispositivo. Lo spettatore è molto vicino al corpo delle performer. Cerchiamo quindi di provocare un effetto ipnotico davanti a una forma complessa – il corpo collettivo – che diviene sonoro e che, allo stesso tempo, cambia costantemente. Lo spettatore è immerso in questa forma vivente. È dentro la forma; è dentro la carne ed è immerso al contempo grazie al suono che si sposta intorno a lui, che attraversa e fende lo spazio. Ci sono dunque due forme alle quali la sua percezione non è abituata. Questo rompe i codici di articolazione della percezione.

E. P.: Sono interessato, a questo punto, a riflettere su una questione a mio

*modo di vedere centrale: quella che riguarda il passaggio da un concetto di rappresentazione a uno di trasformazione. Questo perché se abbiamo la possibilità di lavorare a diverse dimensioni, non si tratta più di rappresentare qualcosa, ma di trasformare qualcosa in qualcosa d'altro.*

**I. C.:** Questo è un aspetto molto interessante, e credo che sia possibile. Forse è un processo che può essere acquisito da chi ha una certa esperienza con le tecnologie. Dico questo perché il livello al quale faccio riferimento permette di riuscire a comprendere e ascoltare tutti i passaggi e le trasformazioni sensoriali che le tecnologie consentono di veicolare. Nel lavoro di interprete, per esempio, devi andare – per comprendere questo – a fondo di alcuni processi di carattere *proprioceettivo* e essere in grado di permettere alle tecnologie di integrare questo processo di espansione sensoriale. È ancora una volta un lavoro di carattere *proprioceettivo*, serve a riorganizzare i propri sensi. E, in seguito, questo modo particolare di ascoltare il movimento nel corpo deve essere trasmesso allo spettatore. La spazializzazione sonora permette di fare questo: portare il movimento interiore del corpo delle danzatrici all'orecchio e al corpo dello spettatore. È qui che entra in gioco una modificazione dell'assetto percettivo dello spettatore: una serie di onde emozionali vanno dalle danzatrici allo spettatore attraverso la mediazione del suono.

**E. P.:** *In questo contesto possiamo affermare che il processo di lavoro sul corpo sonoro raddoppia la dimensione empatica tra il performer e lo spettatore. In altri termini c'è, a un certo livello, una relazione empatica tra lo spettatore e il performer. Una sorta di cannibalismo del gesto operata dallo spettatore. Lo spettatore guarda e questo ha una ripercussione nella sua fisicità. Il corpo sonoro spazializzato nella sala immerge direttamente lo spettatore nel movimento che sta guardando. C'è una trasformazione che interviene anche nella ridefinizione dell'organizzazione percettiva dello spettatore.*

**I. C.:** È qui che si sperimenta una vera trasformazione del corpo collettivo sonoro, una strategia di apprendimento connettiva e integrativa. Come tu stesso hai indicato in diverse occasioni, le ricerche di Rizzolatti e della sua équipe sui "neuroni specchio" sono interessanti perché ci portano a comprendere qualcosa di più sull'intelligenza del corpo e sulle modalità di auto-organizzazione alle quali facevo riferimento. È questo livello non linguistico che mi interessa; esso è sollecitato per mettere in connessione le danzatrici tra loro e comporre così il corpo collettivo fino ad arrivare alla sua relazione con lo spettatore. Si tratta, come tu stesso dici, di una questione di *empatia*. È un processo di trasformazione da un lato e di contaminazione dell'altro. Per dirla con una immagine posso dire che questo processo di contaminazione si propaga come un'onda dalle danzatrici verso lo spettatore portandolo a una nuova consapevolezza sensoriale, verso una esperienza empatia simbiotica. I tempi di cambiamento proprioceettivi sono lunghi. Comprendere l'effetto esterocettivo che la tecnologia induce sui modelli sensoriali richiede un tempo di assimilazione e, da parte nostra, la comprensione dei processi in corso.

<sup>1</sup> Si veda in tal senso il contributo di Dominique Besson come testimonianza della fase di lavoro cui si fa riferimento: D. Besson, *Le corps sonore, entre écriture chorégraphique et écriture musicale*, Actes de Colloque Journée d'Informatique Musicale – JIM'09, Ecole Phelma – Minatéc di Grenoble. Edition AFIM-ACROE-Phelma, 2009 <http://acroe.imag.fr/jim09/index.php/descrip/conf/schedConf/actes>

<sup>2</sup> Ibidem.

8.2.5 *Enrico Pitozzi* (2009b) 'Espace stereoscopico per corpo sonoro. Converszione con Isabelle Choinière'.

Pitozzi, Enrico (2009b) 'Espace stéréoscopique pour corps sonore. Conversation avec Isabelle Choinière', *In: Archée-périodique électronique*, December 2009/Projets, section entretiens, Montreal, Quebec, Canada, online: <http://www.archee.qc.ca/>

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Article have approval to be used

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Espace stéréoscopique pour corps sonore, un entretien d'Enrico Pitozzi avec Isabelle Choinière

Enrico Pitozzi, décembre Projets, section entretiens

### Corps médiatisé et degrés de présence



Isabelle Choinière, *La démence des anges*, 2002, photo : Frédérique Bolté

E. P. : Vos compositions interrogent la relation entre le corps et les dispositifs technologiques. Dans la *Démence des anges*, 2002, vous avez travaillé avec des corps liés en réseau, dans une forme de « présence à distance ». Pourriez-vous élaborer – aussi du point de vue de la composition technique – sur la réalisation et les implications esthétiques de votre travail en relation au concept de présence ?

I. C. : Pour développer le projet de la *Démence* j'ai travaillé avec Thierry Fournier, musicien et informaticien formé en partie à l'IRCAM de Paris. Nous avons développé un système qui permet de traiter des informations capturées en temps réel via le réseau par le biais de lignes Internet et de lignes dédiées-ISDN.

Du point de vue temporel, il s'agit d'un traitement de données provenant du mouvement et du corps selon les modèles de transmission en réseau. Dans ce type de traitement, chaque retard dans la transmission a une répercussion sur la qualité du mouvement visualisé. Par exemple si le traitement des données accuse un retard, le mouvement visualisé aura une apparence plutôt mécanique, alors que si le flux des données est constant et régulier, la visualisation rendra un flux plus organique. Nous avons donc expérimenté plusieurs stratégies sur la question de la perception de la corporalité.

Le premier aspect concerne la présence médiatique. Pour rendre compte de l'aspect performatif des corps médiatisés et retransmis en temps réel en image et en son, ou de la corporalité de l'image en temps réel pour le dire autrement, nous avons retenu les services d'une répétitrice, auparavant elle-même danseuse dans la troupe de théâtre québécois multimédia *l'Écran Humain*. Cette répétitrice, Sophie Michaud, avait l'expérience de la médiatisation de son corps. Au début du travail, il nous était difficile de faire sentir que ce corps projeté en réseau était une vraie personne, une performeuse en temps réel. Sophie a donc travaillé et dirigé chacune des danseuses via sa manifestation médiatique, son corps médié – sous forme vidéo et sonore. Elle nous donnait les instructions via le système de visioconférence, car nous étions dans l'autre pièce. Pour le travail relatif à cette création, nous avons loué deux espaces à proximité l'un de l'autre dans le même théâtre, mais nous avons gardé la même connectique (lignes ISDN et Internet) pour avoir la même situation technologique qu'en représentation. La question du délai dans la transmission d'un lieu à un autre constitue une importante problématique de la présence médiatique. Pour atteindre une présence performative, charismatique à distance, ce problème de décalage devait être surmonté. Nous avons donc corrigé le délai dans la programmation de MAX, en quelque sorte le cerveau qui contrôlait tous les échanges technologiques du spectacle en réseau. Toutefois, lors du travail avec la répétitrice, nous avons conservé un très léger délai pour marquer l'identité d'un corps transmis via le réseau, en contrepoint avec un corps qui serait préenregistré et diffusé en vidéo.



Isabelle Choinière, *La démence des anges*, 2002, photo : Frédérique Bolté

Le deuxième aspect concerne le type de technologie employé. Pour favoriser l'expression et la perception d'un corps vivant, organique, nous avons dû tester une quantité de projecteurs numériques d'une part, et analogues (à trois tubes) d'autre part. Finalement nous avons retenu les projecteurs à tube pour leur qualité de la lumière totalement différente. Celle du projecteur à tube est une *lumière vivante*, vibrante, tu as l'impression que la lumière respire, les couleurs sont très riches et lumineuses ; tandis que celle du projecteur numérique est plutôt éteinte. L'ensemble de ce travail nous a porté à réfléchir sur les différentes stratégies pour rendre présent le corps médiatisé. La réalisation du projet a nécessité l'utilisation de projections et donc de dimensions spatiales différentes et simultanées. Un espace réel devant public, et un espace lointain – dans une autre ville ou continent – ou vice-versa, dans une chambre à côté,

toutefois présents à travers les projections des *traces d'un autre corps* provenant d'un espace ailleurs.

E.P. : La présence, en ce sens, se manifeste dans un processus constant de multiplication. Je parlerais donc d'une présence qui se donne par degrés : autant dans ses traces visuelles que dans ses traces sonores, par exemple.



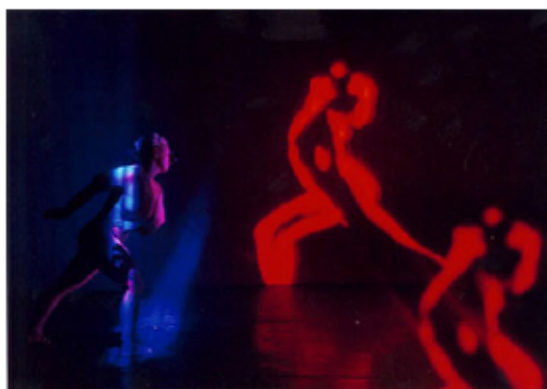
Isabelle Choinière, *La démence des anges*, 2002, photo : Frédérique Bolté

I. C. : Oui, dans *La démence des Anges* il y a différentes dimensions de présence. Il y a les traces lumineuses – corps de lumière – qui amplifient une région particulière du corps, qui permettent la présence de *trou noir*, comme des corps noirs qui contournent les corps de lumière. Cette idée du *Corps noir* me vient de la lecture de *Vie et mort de l'Image* de Régis Debray. Avec la *Démence*, j'étais préoccupée par le déplacement du sacré vers les technologies. Plus précisément sur l'idée du démiurge, et la capacité d'être à plusieurs endroits en même temps. Régis Debray produit une analyse de l'évolution de la représentation du corps occidental dans l'histoire du sacré, plus précisément du judéo-christianisme. Avec l'éclairagiste François Roupinian, j'ai travaillé à créer des corps lumineux, avec les éclairages seulement ou en composition avec le travail vidéo par différentes auréoles de lumières, et des corps noirs, en quelque sorte des masses négatives du corps.

Il y a aussi une dimension de la présence strictement sonore. Les voix et les gestes des interprètes sont captés par une série de microphones et de capteurs placés sur leurs corps. Ces données sont transférées simultanément dans l'espace de la performance et en réseau pour former ce que nous avons nommé un duo à distance. Un corps synthétique se construit donc par le croisement entre les corps physiques, matériels, et leurs projections réciproques, mais également par des effets de persistance rétinienne. Sur scène, les signes des corps sont mêlés aux corps physiques, jusqu'à se confondre.

Cette intervention se développe donc simultanément en deux lieux différents communiquant avec des interfaces de réseau. Dans chaque lieu, on trouve un interprète et des spectateurs. Les deux interprètes engendrent, en temps réel, par leur propre mouvement, le son et l'image projetés, et perçus, à l'intérieur de l'espace de l'autre. Ce processus invite à reconfigurer, par conséquent, la perception du performeur en action et crée une superposition et une confusion de dimensions « réelles ».

### Le corps sonore : vers une nouvelle géographie de la perception



Isabelle Choinière, *La démence des anges*, 2002, photo : Frédérique Bolté

E. P. : À plusieurs occasions, vous avez parlé, par rapport à votre travail, de corps sonore, donc d'un devenir sonore du corps. Pourriez-vous poursuivre plus en détails sur cet aspect de votre production ?

I. C. : Voyons brièvement l'historique de l'évolution de cette idée. Dans la *Démence des anges*, Je poursuivais le travail amorcé sur le Corps sonore dans *Communion* en 1996. À cette étape, je travaillais déjà sur l'idée d'un corps sonore issu du corps réel. Mais ce corps sonore n'était pas un double, mais plutôt une nouvelle manifestation issue d'un apprentissage proprioceptif induit par l'influence de la technologie comme élément de déstabilisation extéroceptif. Bien évidemment, cette transformation de la nature du corps même demande du temps.

Dans *Communion*, j'ai travaillé la relation avec le son partiellement dans un rapport de causalité. Dans la *Démence des anges*, on a complexifié cela au niveau des dynamiques en continu, mais aussi en situation de temps réel en réseau, donc de duo à distance. Dans la *Démence* par contre, nous avons dû développer nos propres senseurs car il n'en n'existait pas pour la dynamique ou la nature du corps en mouvement. Les senseurs disponibles répondaient à des logiques cartésiennes (plan x, y, z) ou autres liées aux besoins des fabricants de voiture, machines diverses. Je voulais donc des capteurs qui me permettent de bouger d'une manière fine, subtile, lente et également qui me permettrait de bouger d'une façon brusque, rapide. Des capteurs qui me donnent accès à toute la gamme de dynamiques du mouvement, pour développer un discours sur la corporalité et non l'appauvrir. Ces capteurs conçus sur mesure ont favorisé une écriture mutante, croisée, avec l'accès à tous les registres nécessaires pour créer de la musique et du mouvement en situation totale d'interdépendance.



E. P. La direction de votre dernier projet de création évolue selon un agencement bien plus développé entre le mouvement et la spatialisation du son.

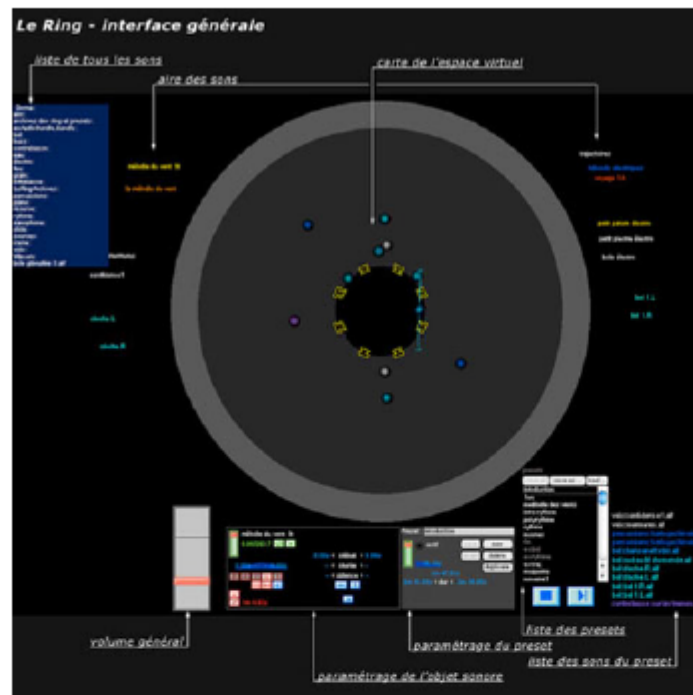


Isabelle Choinière, 3<sup>ème</sup> création, *phase II*, 2006/8, Danseuses : Isabelle Choinière, Marie-Josée Boulanger, Sophie Goulet-Delisle, Soraïda Caron, Rosalie Famelart, photo : Hugo Lafrance

I. C. : C'est avec la nouvelle création en progrès – *Meat Paradoxe*, 2008 – que les véritables outils pour enrichir la corporalité, par le biais du corps sonore entre autres, se sont mis en place. Dans les différentes étapes de création, j'ai éprouvé le désir intense de sortir du rapport d'instrumentalisation de la technologie qui enferme la plupart du temps les performeurs. De plus la ferme intention d'enrichir l'expérientiel de la corporalité et d'utiliser les techniques de la somatiques issues de mon bagage d'apprentissage ont servi de déclencheur de la méthode en expérimentation. Nous travaillons donc sur la modification de la corporalité.

Lors de la *phase II* qui a eu lieu à l'Université du Québec à Montréal – UQAM, et au centre des arts d'Enghien-les-Bains en France, nous avons commencé à développer l'idée d'une synesthésie sonore. Le but était de construire les relations entre un *corps collectif* de performeuses, et la création de son en temps réel, ce qui nous sortait justement de cette instrumentalisation. On a alors commencé à développer l'idée du *corps sonore collectif*. Cette démarche nous permettait de réfléchir sur une structure chorégraphique et des dynamiques artistiques qui parlaient de la complexité et de l'interconnexion dans laquelle le monde actuel nous plonge. Les danseuses ont dû développer un sens élargi d'elle-même tant au niveau du mouvement, au niveau de la production sonore en temps réel, qu'au niveau des relations tissées entre ces deux entités.

À partir de ma rencontre avec la compositrice Dominique Besson en décembre 2007, ce travail a pu trouver une expression au niveau musical. Dominique était intéressée presque autant que moi, à développer un laboratoire où les expressions artistiques seraient transformées par l'expérience de la modification de la corporalité. En avril-mai 2008, nous avons été accueillies au CDC-Centre de développement chorégraphique de Grenoble où nous avons testé de nouvelles dynamiques relationnelles réelles et médiées. Un authentique développement de l'enrichissement de l'expérientiel a pris corps et, suite à cette résidence, la création a pris le nom de *Meat Paradoxe*.



Le Ring : Dominique Besson, Antoine Schmitt et Olivier Koehlin

Pour être en mesure de se concentrer sur la dimension artistique, Dominique a fait faire le développement en temps-réel sur son outil de spatialisation, Le RING, en amont. Pour avoir une description et un témoignage de cette phase de travail tant au niveau artistique que technologique, le lecteur peut accéder à son article, dont l'adresse paraît dans la section Liens Internet.

Quand je parle de corps sonore, je réfère en première instance à une dimension du corps qui est engendrée en temps réel par les danseuses, donc qui entre parfaitement dans le concept de chorégraphie élargie – en référence aux philosophies orientales qui m'ont inspirée – que je développe avec ces derniers projets. Le corps sonore est donc une émanation, une dilatation du corps réel qui en constitue une vibration à laquelle on se réfère d'un point de vue sensoriel pour composer la partition.

E. P. : Ce travail sur la dimension sonore du corps implique nécessairement une redéfinition et une remise en ordre sensorielle des performeuses en direction d'une nouvelle géographie de la perception.

I. C. : Oui, ce qui est extrêmement intéressant, c'est qu'en travaillant sur le corps sonore, on peut intervenir – pour les renouveler – sur la sensorialité et sur la perception des danseuses dans leur développement dans l'espace. Ça nous permet d'un côté d'abandonner des modalités de composition déjà expérimentées, et de l'autre d'approfondir le geste en transformation continue. Ainsi, la sensorialité se réorganise et l'intériorité – une intériorité

modifiée, évolutive, en transformation par la déstabilisation induite par l'extérieur technologique – est en quelque sorte médiatisée.

Cela nous permet de sortir de la sclérose chorégraphique et, de mon point de vue l'un des aspects les plus importants du travail avec les technologies, de renouveler son organisation perceptive pour engendrer de nouvelles partitions du geste. C'est aussi une modalité pour déhiérarchiser le corps. Ce qui se passe entre la performeuse et la technologie n'est pas une relation extérieure, celle-ci se fond dans le processus de travail de composition.

E. R. : Cela me fait penser à la composition de l'espace. Pourriez-vous parler de la relation qui s'instaure, du point de vue spatial, entre le corps physique et le fantôme sonore, dont nous avons précédemment parlé ?

I. C. : Je cherche toujours à composer à travers la chorégraphie une relation avec l'espace, mais cette relation n'est pas formelle, elle est plutôt relative, parce qu'elle est en relation avec l'expérience du corps. Depuis ma rencontre avec Dominique Besson, spécialiste du discours sur l'espace, nous avons pu également développer une relation dite 'relative' en relation avec le déplacement du son et sa spatialisation. Ce son, dans cette phase du projet, joue le rôle du sixième danseur. Il participe au discours et à la mise en place du *corps collectif sonore*.

Ici nous sommes dans une forme d'abstraction de la dimension cartésienne de l'espace, en privilégiant par contre une notion corporelle de l'espace, une relation relative de celui-là. Relative par rapport aux danseuses, mais aussi par rapport à l'organisation du déplacement dans l'espace des performeuses à l'unisson, donc du corps collectif, comme dans le travail de l'artiste brésilienne Lygia Clark.



Isabelle Choimière, *3ème création, phase II*, 2006/8, Danseuses : Isabelle Choimière, Marie-Josée Boulanger, Sophie Goulet-Delisle, Soraïda Caron, Rosalie Famelart, photo : Hugo Lafrance

Dans la *phase II*, 2006, les cinq danseuses redéfinissent à chaque instant leur relation réciproque avec et dans l'espace, en engendrant, par conséquent, une autre structure chorégraphique et un autre type d'organisation des figures d'espace chorégraphique, générant ainsi le corps sonore de la performance. Cette approche de l'organisation des relations dans l'espace est similaire, même si elle ne provient pas de là, à la dynamique de l'essaim ou du *swarm* en anglais. Le rythme et le positionnement des danseuses dans l'espace sont déterminés en relation l'un avec l'autre et cette relation est perpétuellement en changement, dans une structure tridimensionnelle du geste et des interrelations. Dans la *phase III*, réalisée avec Dominique, nous avons complexifié ce rapport en travaillant les figures d'espace

chorégraphique en étroite relation avec les figures d'espaces sonores. Nous avons intégré le corps sonore spatialisé dans cette relation dite relative.

E. P. : Du point de vue du dispositif, comment ce premier niveau d'intervention sur le son est-il composé ?

Dans la *phase II*, pour le dispositif, nous avons travaillé avec des microphones sans fil, dissimulés sur la tête des danseuses. Le microphone capte la respiration des danseuses pour l'élaborer successivement. Un principe de proprioception ou de synesthésie sonore participe à la complexité de la dynamique du corps collectif de la partition chorégraphique, ce qui a une résonance avec le concept de corps sonore du travail, un niveau de complexité ancré dans le principe du mouvement.

Au sol, nous avons situé des capteurs audio pour capter les vibrations du mouvement. Ces *vagues* sonores se propagent dans une forme organique qui peut être dynamisée et amplifiée pour créer un nouveau type de proprioception sonore. Une dimension très proche de la manipulation d'une énergie émotionnelle constitue l'espace de jeu.

Si la première forme de captation est liée au souffle ou à la dynamique de certains gestes et d'une conscience collective du geste et du souffle, donc en dehors d'un rapport de causalité, tout le travail au sol concerne une dynamique gestuelle qui passe dans un nouveau niveau du corps. Je parle en particulier de l'articulation des parties inférieures, comme les jambes. Grâce à cet outil, les vibrations se tissent un peu comme une toile d'araignée et permettent aux cinq danseuses en mouvement d'avoir une perception kinesthésique de leur corps et de produire un rendu sonore de ce corps collectif en mouvement.

Nous pourrions dire qu'il y a différents paliers sonores qui se composent organiquement dans la dimension du corps sonore. Cet aspect ne peut pas être directement référé à un corps individuel, mais plutôt à une complexité, à une masse de corps; un corps collectif composé de différentes dimensions entre lesquelles la captation du souffle ou du mouvement au sol est liée à une forme de diffusion sonore, donc à une spatialisation extrêmement rudimentaire. Ici, il n'y a pas encore de travail d'articulation artistique au niveau sonore. Nous avons commencé à l'intégrer vraiment à la *phase III* où l'on a remplacé le tapis de micro-vibration par le RING qui était beaucoup plus riche en possibilités. Avec cette phase, le Ring s'oriente « dans la direction d'un système ouvert de spatialisation temps réel doté de fonctions de mémorisation graduelle du signal et des trajectoires. Interfacées comme des entrées temps réel dans le Ring, les cinq sources sonores générées par les danseuses deviennent donc 'pilotables' dans l'espace et dans le temps. » (Besson, 2009)

E. P. : Cette dimension temporelle complètement renouvelée caractérise le déplacement du mouvement. Pourriez-vous parler de cet aspect de *Meat Paradoxe* ?





Photo: Jean-François Gratton / Shoot Studio, Montréal 2008

I. C. : Je cherche à décliner un nouveau type de temporalité, surtout en ce qui concerne le mouvement. Je cherche aussi une certaine lenteur jusqu'à l'immobilité si nécessaire, qui donne l'idée d'un temps qui ne passe pas, un temps suspendu. Ce processus est inséré, dans mes travaux, à l'intérieur d'une plus vaste stratégie de déhiérarchisation, d'auto-organisation des repères sensoriels et perceptuels. Ceci enclenche une nouvelle stratégie d'organisation de la structure du corps, pour l'inclure dans un flux de mouvement plus précis et composite, fait de contact, de division, mais où le corps individuel perd sa place prioritaire à l'intérieur du développement de la performance.

Ce qui m'intéresse est un autre type de temporalité; une temporalité collective, parce qu'elle n'est pas liée à un seul corps et donc à l'articulation d'un seul mouvement, mais plutôt à la construction et à la relation de plusieurs mouvements et de temporalités complètement différentes les unes des autres, qui peuvent aller à l'unisson mais aussi se diversifier, se rencontrer et se séparer. Cette temporalité est reliée au mode d'auto-organisation basée sur une stratégie du mouvement transitoire de Trisha Brown, sur une radicalisation de la démarche de Paxton en s'appuyant sur ses techniques de corps tactiles, mais en poussant ses techniques jusqu'à une obsession hypnotique du contact du point de vue des danseuses. Ça veut dire mettre en résonance diverses temporalités dans un même processus de déplacement.

#### [Le paradigme de la transformation : corps collectif et empathie](#)



Photo: Jean-François Gratton / Shoot Studio, Montréal 2008

E. P. : En matière de rapprochement des corps dans l'espace, vous parlez d'une masse de corps, donc d'une certaine modalité pour reformuler la forme des corps rapprochés. La proximité spatiale entre spectateur et performeuses ne sert-elle pas aussi pour *décomposer la forme du corps dans le flux du mouvement collectif* ?

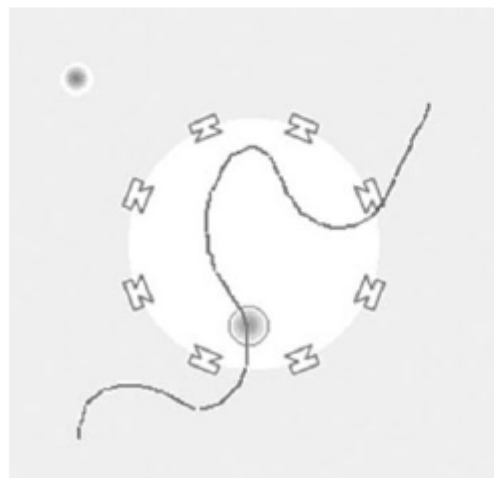
I.C. : Nous sommes à essayer différents modes de réception de ce matériau sensoriel. Par exemple, le public circule autour du corps collectif qui est présenté dans un espace circulaire où les spectateurs sont entre l'arène-zone de performance du corps collectif et l'arène (le beigne) des enceintes, soit l'octophonie par laquelle l'espace, qui est leur espace extérieur, est délimité. Depuis la *phase III* et le début du travail avec la compositrice Dominique Besson, le travail sur l'espace et sur la perception s'est énormément complexifié. À cette étape, nous avons placé les spectateurs très près des corps. Nous cherchions à provoquer un effet un peu hypnotique devant cette forme complexe, devenue sonore, cette masse qui chante, qui gémit. L'effet immersif, empathique, donc de reconnaissance psycho-corporelle, si on ne prend pas pour acquis que tout le monde sait que la dimension psychologique est intégrée dans la dimension corporelle, était souhaitée. Le spectateur est immergé dans cette forme vivante sonore par la proximité qui lui enlève ses références analytiques. Car il est *dans* la forme, il est *dans* la chair, il est dans l'hyper-intime et il est immergé également par le son de cette forme qui se déplace autour de lui, traverse son espace. Il est donc en présence de deux formes auxquelles il n'est pas habitué, qui brouillent ses codes, ses repères et qui bougent autour de lui.

E. P. Je suis intéressé, à ce point, à réfléchir sur une question centrale qui concerne le passage d'un concept de représentation à celui de transformation. Parce que si nous avons la possibilité de travailler sur différentes dimensions, on n'est plus à traiter quelque chose, mais plutôt en train de transformer quelque chose dans autre chose. Tracer une trajectoire dans la matière, en quelque sorte.

I. C. : Ceci est un aspect très intéressant, et je crois que c'est possible. Peut-être est-ce un processus qui peut être acquis pendant et grâce à une certaine expérience avec les technologies. Je dirais même que cela permet que l'on renouvelle la trajectoire dans la matière du corps, du son et de l'espace. Parce que le niveau auquel je fais référence est celui de réussir à comprendre et écouter tous les passages et les transformations sensorielles que les technologies permettent de développer, et cela, à différents niveaux d'intervention. C'est encore une fois un travail d'organisation de la sensorialité, un travail proprioceptif. Et cette modalité d'écouter et d'apprendre par le mouvement dans le corps doit être portée à l'extérieur, transmis au spectateur. On peut alors questionner l'organisation perceptuelle du spectateur : des ondes émotionnelles partent des danseuses pour rejoindre le corps des spectateurs par la médiation du son.

E. P. : Dans ce contexte, on peut affirmer que ce processus de travail sur le corps sonore redouble la dimension empathique entre le performeur et le spectateur. En autres termes, il y a – à certains niveaux – une relation empathique étonnante entre le performeur et le spectateur. Nous sommes dans une sorte de « cannibalisme du geste » opéré par le spectateur. Le spectateur regarde, et sa perception a un écho directement dans sa corporalité. Le corps sonore spatialisé dans la salle immerge directement le spectateur dans le mouvement qu'il est en train de voir. Ça c'est la transformation qui intervient directement dans la redéfinition de l'organisation perceptive du spectateur.

I. C. : C'est ici que je crois que l'on est en train d'expérimenter une vraie transformation, par le *corps collectif sonore*, une stratégie d'apprentissage connective et intégrative. Comme vous l'évoquiez, les recherches de Giacomo Rizzolatti sur les systèmes de neurones miroirs me semblent intéressantes, car elles amènent une explication à cette *intelligence du corps* et l'état non langagier d'auto-organisation auxquels nous faisons appel. C'est cet état non-langagier qui est sollicité pour transmettre les connaissances d'un corps de danseur à un autre et, probablement plus largement, du corps collectif au spectateur. C'est comme vous dites une question d'*empathie*. C'est un processus de transformation mais aussi de contamination.



Le Ring : Dominique Besson, Antoine Schmitt et Olivier Koechlin

Pour faire image, je dirais que ça se propage comme une onde. Que la masse des danseuses agit comme une entité qui active ce phénomène, se propage comme une onde qui contamine les autres personnes en place, notamment le public, leur apprend une autre corporalité et les emmène vers une expérience empathique symbiotique. Le temps du changement proprioceptif est long. Comprendre l'effet extéroceptif de la technologie sur des modalités perceptuelles et sensorielles demande un temps d'assimilation, et de notre part, de compréhension de la transformation en cours. C'est pour ça qu'à mon avis, il faut revoir également les modes de production si on veut vraiment réinvestir le sens, l'esthétique, la corporalité dans l'époque de changements qui nous bouleverse mais qui nous amène souvent dans un espace inspirant de révélation.

#### Note(s)

Cet entretien a été publié en Italien dans le magazine « Art'O\_rivista di cultura e politica delle arti sceniche » sous le titre *Spazio stereoscopico per corpo sonoro*, Art'O, n° 28, été 2009, pp. 58-65. Archée a le plaisir d'en diffuser pour son public une version française révisée par Louise Boisclair, critique d'art, membre de l'équipe rédactionnelle d'Archée et doctorante en sémiologie, à l'UQAM, dont le projet porte sur les effets de l'image interactive sur le corps du spectateur.

#### Référence(s)

##### **Enrico Pitozzi**

Maître de conférences au Département de Musique et du Spectacle de l'Université de Bologne, en Italie, où il enseigne un cours intitulé « Forme de la scène multimédia »; Enrico Pitozzi sera professeur invité en 2010, pour le cours « *Corps sonores. Le corps comme présence dans l'installation et sur scène* » au doctorat en études et pratiques des arts de l'École des arts visuels et médiatiques de l'Université du Québec à Montréal – UQAM. Son travail de recherche porte sur les modalités d'intervention des technologies sur la perception du performeur, sur les aspects neurophysiologiques liés à la composition du mouvement ainsi que sur le concept de présence médiatisée sur scène. Sa démarche a été inscrite dans le Presence Research Groups - section Arts/Performance, programme international de recherche sur la présence, dans le cadre du PEACH Project. Il a participé, entre autres, au séminaire interne de la « 37<sup>e</sup> Biennale del Teatro di Venezia 2005 » dirigée par Romeo Castellucci. Rédacteur du magazine italien Art'O, il a également publié de nombreux textes en Europe, au Japon et au Québec, dont le texte *Étendre la peau. Scène, perception, dispositifs technologiques*, dans l'ouvrage *Ensemble / Ailleurs*; *Together / Elsewhere*, sous la direction de Louise Poissant et Pierre Tremblay aux Presses de l'Université du Québec, prévu en février 2010. Avec Annalisa Sacchi, il a publié en 2008 *Itinera. Trajectoires de la forme. Tragedia Endogonia*, chez Actes Sud. Sa monographie sur la scène contemporaine face aux technologies *Corpo, anatomia, percezione. Scena performativa e dispositivi tecnologici*, aux éditions Bulzoni est prévue pour février 2010 ainsi que le livre *Electroscena*, avec le compositeur Roberto Paci Dalò, sur la composition sonore électronique chez l'éditeur italien Cronopio, en mars 2010.



### Isabelle Choinière

Fondatrice et directrice de la compagnie *Corps Indice* à Montréal, au Canada, Isabelle Choinière concentre ses activités sur l'exploration des rapports entre la danse actuelle/performance et la technologie. Ses recherches portent sur la manière dont l'infiltration de la pensée technologique en danse/performance actuelle pourrait avoir des applications dans le développement de nouveaux modèles chorégraphiques. Depuis 1995, ses créations et conférences sont régulièrement présentées dans des festivals internationaux (France, Allemagne, Danemark, Iles Canaries, Espagne, Brésil, Mexique, Chili, Argentine, Canada, Etats-Unis, Angleterre, etc.). Ses chorégraphies - *Le Partage des peaux I* (1994), *Communion (Le Partage des peaux II)* (1995-1996) - *La Démence des Anges* (2002) - sont étudiées dans de nombreux groupes de recherche et universités à travers le monde. Ses derniers textes ont été publiés entre autres, en 2008 par l'University of Applied Arts Vienna, en Autriche, en 2009 au Cambridge Scholars Publishing Ltd. (U.K.), au Journal for Transdisciplinary Knowledge Design, en Corée, et en 2010, dans l'ouvrage *POINT OF BEING* sous la direction de Derrick de Kerckhove, ex-directeur du McLuhan Program à l'Université de Toronto. En septembre 2008, elle est invitée à participer, en tant que membre associée, par l'université de Séoul en Corée, à la conception et aux événements du Centre Yonsei Imagination-Science-Technologie (Y-IST) de l'Institut d'Art Médiatique, Université Yonsei. Au printemps 2005, Isabelle Choinière amorce un doctorat dans le cadre du *Center for Advanced Inquiry in the Integrative Arts (CAiIA)* affilié à l'Université Plymouth en Angleterre, sous la codirection de Roy Ascott, directeur fondateur du Planetary Collegium et d'Armando Menicacci du département de danse de l'Université Paris VIII. Depuis 2006, elle développe une nouvelle création nommée *Meat Paradoxe* axée sur le concept de *corps collectif sonore*. Menée en collaboration avec la compositrice française Dominique Besson, cette nouvelles création se fonde sur le principe d'une stratégie de déstabilisation sensorielle et perceptuelle, que les technologies provoquent dans leurs relations avec les corps en mouvement.

8.2.6 *Enrico Pitozzi* (2010b) ‘Corpo sonoro collettivo. Verso una tattilità uditiva / A collective resounding body. Aiming towards an auditory tactility’.

Pitozzi, Enrico (2010b) ‘Corpo sonoro collettivo. Verso una tattilità uditiva / A collective resounding body. Aiming towards an auditory tactility, *In: Digimag*, no. 51, February, Milan, Italy.

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## Toward the edge of chaos

Leonardo Solaas

David Cohn, Carlos Casas, José Manuel Berenguer, Bennet Piminella, Isabelle Choinière, Aware Objects  
Passion and Fashion, Croatian Biennial 09, Harmony Korine, Art Tech Media, Open Education

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[EXTRA]:

Otolab - Videomoog 3.0 - Unpublished: Footage + Live - Netmage 2003  
[http://www.digicult.it/archivio/digimag\\_51eng/allegato.asp](http://www.digicult.it/archivio/digimag_51eng/allegato.asp)



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## A COLLECTIVE RESOUNDING BODY AIMING TOWARDS AN AUDITORY TACTILITY

Txt: Enrico Pitozzi / Img: courtesy of Isabelle Choinière / Eng: Luisa Bertolatti

Among the more interesting figures on the international circuit, the choreographer **Isabelle Choinière** has been developing a journey connected to sound qualities in movement for many years. She founded and currently directs the Corps Indice of Montréal (Canada) company with which she develops research projects on the relationships between dance and technologies.

From 1995 her creations have been present in many international festivals: in France, Germany, Denmark, Brazil and the USA. Among her main bodies of work are *Le Partage des peaux I* (1994), *Communion (Le Partage des peaux II)* (1995-1996) – *La Démence des Anges* (2002). Alongside her work as a choreographer she also works intensely in research: her texts have been published in 2008 at the University of Applied Arts in Vienna. In 2009 one of her contributions appeared in the book *Point of being* by **Derrick de Kerckhove**, director of the McLuhan Program of the University of Toronto. In 2006 she began developing a new project called *Meat Paradoxe* dedicated to the concept of a collective resounding body, working in collaboration with the French composer Dominique Besson.

### I. Intro

We are currently in an epistemological passage point which marks a real movement in the scenic arts and that primarily regards the role of the performer favouring other – plural – manifestations of their physicality.



This break passes through a relationship that the contemporary scene has initiated with technology: here we will look at a particular aspect, specifically interrogating the definition of scenic soundscape derived from the movement of the performer in the work of the Canadian choreographer Isabelle Choinière.

It is here that the concept of "resounding body", which is at the centre of this intervention, takes on meaning as an audible expression and manifestation of the relationship that movement and perception create with sound. The resounding body does not look to something that is simply anthropomorphic, the sound reconstruction of the shape of the body is not an issue: the investigation of the issue of "resounding body" - a voluntarily ambiguous term - means to penetrate into the matter of sound and at the same time, of the body. It means to operate inside a fine limit where the shape of the body and sound are dissolved leaving a plot made up of different intensities that operate within it: we will therefore speak of a "molecularised" form of the body and sound that resonate with each other. In other words, it means to work on a series of internal tensions that allow the shape of the body and of sound to be in constant mutation.

## II. Toward a collective resounding body

To come close to an initial manifestation of this relationship between body and sound, we will cite the work *La dérance des anges* (2002) by Canadian choreographer **Isabelle Choinière** where thanks to technological means, the presence of the body is extended to a different place to where the performance is physically taking place. Two different spaces and two different bodies live in these two different spaces. Two dimensions of presence are in relation with each other inside the same physical space: a physical body of the performer and a "synthesis" body that is "present" as a projection. This way the dancer who is physically present sees her performance replicated in the image and the sound track of a second dancer (spatially collocated in another place, even in a different continent, if necessary) transmitted by a MIDI data system via the internet. Therefore in this case the resounding body is the result of an encounter between physical and material bodies, spatially distant with reciprocal projections.



In other words the voices and gestures of the performers are captured by a series of microphones and sensors that are positioned on their bodies, and this data is transferred simultaneously into the space of the performance and on the net to form what could be defined a long distance duo. It's as if the two performers generate and exchange sound and images in real time, which come from the composition of movements producing a sort of net-like persistence of their image in the spectator. We can therefore see and hear every performer, *present* in the space of the other. This process is an invitation to a reconfiguration of the perception of the performer in relation to action and creates an overlapping and confusion of real dimensions.

In order to create this aspect of the performance, the two dancers have captors capable of capturing the sound qualities of gestures that are executed and attribute an equivalent to these on a sound level through a synthesizer.

In order to create this, the choreographer had to develop a series of particular sensors to be applied to the body. The need was to elaborate captors that restored the possibility of composing and capturing a movement in a decisively more subtle and slow way, and at the same time allowed to intervene on the opposite diametrical quality, in other words according to a dynamic of acceleration or fragmentation of the flux of movement, so as to compose – in the space of the scene – a real auditory space that interrogated the perceptive asset of the performer in action and the audience's method of perception.

The resounding body that transpires from this is something that comes from the real body, but is not a *double* of the body, but rather a manifestation of it, a new sensorial organisation of the perception developed from a technological integration. Technology becomes a way to interrogate the potential of the body in this work, to develop a kind of depth of perception of physical knowledge in order to act on it so as to modify the score of movement constantly (and it's sound declination). It's evident that, in this case, we are beyond the pure instrumental use of technology. Technology becomes a way to investigate the body and expand its potential (1). Thanks to this particular use of technology – where technology becomes a way of thinking about the body – the choreographer works by integrating the sound dimension.





### III. Placement of the resounding body

By pushing this process of work connected to sound, it is in the *Meat Paradoxe* (2008/10) project that Isabelle Choinière developed a concrete and radical vision of the concept of the *resounding body*. Thanks to the collaboration with the French composer Dominique Besson – among the figures who generated software of sound specialisation of movement called *Ring* – the choreographer developed an organised system around the capturing of the sound of five different dancers that – composing their movement in the space of action like a real sound mass – produced what we could define a collective resounding body, inside which the dancers could feel a shared sensorial experience, on the level of movement and on the level of sound production in real time. The elaboration of a soundscape responds to the mass-movement of the performer on stage, of an intense graininess that seems like a cloud of sound, a dense and articulated atmosphere of sound particles.

In this sense the "resounding body" recalls a dimension of the body (or of movement) that originates in real time starting from the movement of the dancers on the scene and it is inscribed in a context of broadened choreography that the choreographer has been developing for some years now. The "resounding body" is, in other words, an emanation, a dilation of the real body into the shape of sound; it is a vibration. The body becomes an eardrum, a resonator of sensorial dimensions that becomes scenic sonority. Therefore the body is almost molecularised, subdivided into elementary particles and recomposed in the shape of sound. Once again we are outside a purely logical formality of gazing at the body; the intensities – its articulation in movement-particles – are at the same time part of the choreographic and research work on sound thanks to the alteration and modification of different frequencies.

What is extremely interesting, in this perspective, is that by working on the resounding body it is possible to intervene – to renovate it – on sensorial aspects and the perceptive arrangement of the performer. This leads to the abandonment of ways of composition that have already been experimented with and opens up to a gesture that is in continuous transformation and, therefore, to a scenic sonority enriched and redefined each time. It is here that the sensorial aspect is reorganised and the internal part of the body becomes a medium. It's as if sound, in this project, plays the role of an added dancer: it participates in the organisation of the "collective resounding body". Just as Dominique Besson underlined when speaking of *Ring* software used in this process of the work: "The Ring is oriented toward a direction of open system of specialisation in real time of functions of gradual memorisation of the signal and its trajectory. Interfaced as entries in the Ring system, the sources of sound generated from the dancers become manipulable in space and time"(2).



Thanks to the placement of sound obtained via a device consisting of 8 speakers in the hall, the spectator is projected inside the body of the performer, and at the same time, is induced into a radical rethinking of his or her sensorial arrangement. In other words the spectator is very close to the body of the performer, in a proximity that induces him or her to a "tactile vision" of their bodies in movement. The spectator is immersed in this living form. He or she is inside the form, in contact with the intensities that animate and sustain it; inside the flesh thanks to the sound that moves around him or her, that crosses and ploughs through the space. Therefore there are two forms that his or her perception is not used to and that must be redefined.

#### IV. Toward an auditory-tactile perception of reception

We can speak therefore of a tactile aspect of the working of sound. The sound elaborated according to the strategy of molecularisation and spatial disposition operates with very high and very low frequencies and tends to articulate itself through a continuous wavelength that installs a constant relationship with the bodies that are listening. This proximity between the body of the performer (visibly or auditorily) does not however take the audience into a situation of extreme sound: the communication passes because of the different chromatic levels of sound, different levels of vibration. The spectator is therefore immersed in the continuous vibration, of a segment of sound as a gesture, and it is on this scale of variations that the attention must fall. What is being affirmed is that the parameters that the spectator must put into action are not simply optical-visual or auditory-sound, but the process of composition of the choreographer Isabelle Choinière requires a synaesthetic glance and mode of listening, an active and contemporary relationship of the senses. It's necessary to configure the bodies in another way in order to receive these signals. It isn't enough to have eyes to see the invisible or to have ears to hear the inaudible.

<http://www.corpsindice.com/>

#### Notes:

1 - Si veda su questo aspetto anche L. Boisclair, *Isabelle Choinière de Corps Indice ; Autour des Demoiselles d'Avignon*, dans « Inter, art actuel », no 98, hiver 2007, p. 52-56.

2 - Si veda in tal senso il contributo di Dominique Besson come testimonianza della fase di lavoro cui si fa riferimento: D. Besson, *Le corps sonore, entre écriture chorégraphique et écriture musicale*, Actes de Colloque Journée d'Informatique Musicale – JIM'09, Ecole Phelma – Minatec di Grenoble. Edition AFIM-ACROE-Phelma, 2009 <http://lacroe.imag.fr/jim09/index.php?idescrip/conf/schedConf/actes>

## 8.2.7 Members of *the Observatory* profile<sup>280</sup>

### 8.2.7.1 Affiliated researcher: *Louise Boisclair*

**Researcher:** Louise Boisclair

Email: boisclairlouise@yahoo.fr

Website: [www3.sympatico.ca/louboisclair/](http://www3.sympatico.ca/louboisclair/)

**Research group's name:** *Groupe de recherche Performativité et effets de présence.*

**Main researchers and projet director:** Josette Féral and Louise Poissant

#### **Projet members:**

Research axis: the actual project is made of three interconnected axis:

Axe 1: Technologies and their manifestations: Transfers from media arts to live arts, and from live arts to media arts (Axis directors: Féral, Poissant).

Axe 2: Real/virtual body: The body and the 'effect of its presence' (Axis directors: Martin, Febvre, Féral).

Axe 3: Sound/Music: sonorous presences (Axis directors: Bovet, Maurin).

**Groupe website:** <http://www.effetsdepresence.org/qnsrec.html>

#### **Personal Researches:**

- **Researcher:** Louise boisclair
- Master in Literary Studies, *U.Q.A.M.*, 1998, mention of honor.
- **Affiliated university:** *Université du Québec à Montréal – U.Q.A.M.*

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<sup>280</sup> Original translation from the researchers.

- **Title of the Doctorate thesis in Studies and Practice of Arts, Literary Studies (unfinished), linked to the NT2 research group:** *L'éclatement d'un conte de fée dans sa création multimédiatique interactive ou Variations sur Menamor et Coma: vers de nouvelles formes narratives.*

- Title of the Master thesis: *Variations sur le dépassement, suivies de L'écho du processus de création.*

- Doctorate thesis directed by Louise Poissant.

- Master thesis directed by Paul Chamberland.

- For more specific research activities (publications, multiple collaborations, communications, scientific activities, classes – readings and drama forms -, theater in Quebec since 1980, production and drama arts analysis, *et caetera*).

- **Field of research:** Pragmatic of the experience, arts and consciousness.

- **Subject of my research:**

1- Interpenetration of the aesthetic of contemplation and of the one of the experimentation of actual art;

2- 'Effets de presence' in the traditional artistic practice (*mandala*, painting, traditional danse, *tai chi*) and the actual one (living cinema, dance of the state of limits, relation sound-image-word);

3- Multidiciplinary aspect (artistic, literature, mediatic and therapeutic) of the numeric inter-conte;

4- the politic fonction of visual and mediatic art.

- **Key words in my work:**

Descriptors: Movement, contact, connection, synesthesia, effect on the spectator, interpenetration of paradigms of complementation and experimentation, transmission,

material bodies and the body of work (*corps de l'oeuvre*), energy, conscience, political aspect of the senses material, *et caetera*.

- **Problematic:** Our problematic has been, until now, mainly concerned with the notions of theatricality and performativity, which have constituted two great paradigms in the artistic fields during the last 30 years.

A new problematic has emerged from these works: the part of 'presence' – now a deciding one -, being that of virtual characters or of actors on stage in various theater, dance, opera and media arts productions. Paraphrasing Ayers (1962) and Recanti (1979), one could say that organic or virtual characters are performative in the way that they cease to 'represent', but instead install, in the same fashion as performative statements, a 'new reality'.

We wish to go further into this thematic so we can investigate the different forms of interpenetration between virtual and reality and measure the effects of the 'real' thus produced.

**Methodological approach:** It consists of a phenomenological posture inside a 'bottom-up approach, meaning to extract the statements and the trails left by observation and analysis of a performance (and not by applying a theory, like using the semiotic grid of a work).

- **Present publications about the phase of research-creation of Isabelle Choinière:**

Boisclair, Louise december 2007 **Isabelle Choinière de Corps Indice; Autour des Demoiselles d'Avignon** Revue Inter art Actuel numéro spécial Espaces Sonores: Quebec, Quebec

- **As an analyst in actual arts, regular collaborations with:**

1990-1994: *Parcours Arts visuels*, Montreal, inside Quebec distribution (20 articles concerning visual arts artists)

2007 - : *VIE DES ARTS*, Montréal, international distribution (2 interviews, SIMONIN (engraver and painter), HÉBERT (cartoon animétor and techno performer)

2007- : *ARCHÉE*, international electronic magazine with, on the redaction side (One analysis, soon to be published and three interviews in the making accepted by the publishers, in relationship with the seminar *MOBILE/IMMOBILISÉ*, to be published in 2008) VOIR site of *Archée: cyberart et cyberculture artistique*.

<http://archee.qc.ca/>

2007- : *REVUE INTER ART ACTUEL*, Quebec, international distribution.

- Comparative analysis to this day:

I've studied the works of KITSOU DUBOIS for an interview in *ARCHÉE* after hearing her conference at *MOBILE/IMMOBILISÉ*, because her work is about the 'states of body' in critical locations (in water, on high ground, in weightlessness), and in critical states (with psychotic persons), also very interesting. However, I do not establish any comparison between her approach and mine.

### **Biographical note:**

Author, researcher and lecturer since 2007, **Louise Boisclair** holds a Ph.D. in semiotics from the *Université du Québec à Montréal*. Her research deals with the technesthetic effect(s) on perception, embodiment and aesthetic experience of the interfaced gesture, movement or presence in the interactive and immersive environment. Her methodology of dynamic spectatorship suggests three important steps: 1- the experimentation-observation described phenomenologically at the first person; 2- the analysis of spatiotemporal dimensions related to the interfaced movement internalised and; 3- consequently the enlarged sensori-perceptual modalities, affective resonances and new cognitive potentialities. Therefore, the spectator becomes a 'participant-searcher' who experiments perceptually and affectively the becoming form and embodies it in his/hers implicit body.

Alongside her career in strategic communication and video, Louise Boisclair's artwork includes short story writing and acting painting, video art and interactive screenwriting-production. She has signed numerous articles and collaborates regularly with *Archée* and other publications (<http://installationinteractive.blogspot.ca/>). She is member of the research groups *Performativité et effets de présence*, *SenseLab* and '*L'Observatoire*' sur le corps collectif sonore (I. Choinière). Furthermore, practicing *tai chi* since 1985 and teaching it during seven years have enriched her knowledge of movement, consciousness and perception with or without extension. She also teaches *mandala* and creativity in private workshops.

### 8.2.7.2 Affiliated researcher: *Enrico Pitozzi*

**Researcher:** Enrico Pitozzi (1977)

Email: [enicopitozzi@hotmail.com](mailto:enicopitozzi@hotmail.com) / [enrico.pitozzi@unibo.it](mailto:enrico.pitozzi@unibo.it)

**Research group's name:** During the first stage of collaboration with:

- **Center of Intermedia**
- **Main researchers and directed by:** Nick Kaye et Gabriella Giannachi
- **Affiliated to:** Exeter University, England, in collaboration with Stanford University, United States of America.
- **Websit:** <http://presence.stanford.edu/>

**Research group's name:** Working for a first collaboration with:

- ***Performativité et Effets de présence***
- **Main researchers and directed by:** Josette Féral et Louise Poissant
- **Affiliated to:** l'Université du Québec à Montréal – U.Q.A.M.
- **Research axis:** *Présences sonores*
- **Axis directed by:** Bovet & Maurin
- **Website:** <http://www.effetsdepresence.org/qnsrec.html>

**Personal researches:**

- **Researcher:** Enrico Pitozzi
- **Doctorate in 'Cinematographic and Theatrical Studies' at the Lettres and Philosophy Faculty of Bologna University, Italy.**
- **Affiliated university:** Bologna University.
- **Teacher in Dramatic Art of the new media (2007/2008) – Bologna University**



- **Thesis title:** *Il corpo, la scène, le technologie. Per un'estetica dei processi d'integrazione.*
- **Specific thesis subject:** Relationships between body/movement and technological systems.
- **Thesis directed by:** Professor Marco De Marinis; mention of excellence, awarded on July 2, 2007.
- For more specific research activities (publications, multiple collaborations, communications, scientific activities, classes – readings -, *et caetera*).
- **Field of research:** Contemporary scenic forms which tend to integrate different composition codes, particularly in Europe, in Quebec and in Japan.
- **Subject of my researches:** The aesthetic aspect of the research frame is about the relationship between live arts and technologies, and it focuses on thought and body functioning, the question of presence, the forms of its gradations, and, finally, the complexity of the visual/sound connections brought forth by contemporary scene. In order to look deeper into this thematic, I'm interested in investigating the different forms of interpenetration between the virtual and real dimensions so as to measure the gradations and figurations produced by this process on scene. From a theoretic elaboration point of view, this research is developed on a basis of an international relationship. Its process leans towards a renewed methodological lexicon definition; and this lexicon is characterized by its transdisciplinary aspect as well as the respect it shows to each field of knowledge's specificity it is in a relationship with.

**The key words in my work:**

Presence (graduations of); ghost; visual scape; sound scape; time; space; materiality; immateriality; movement; fiction; perception; sensoriality; transformation; situation; composition.

- **Methodological approach:** philosophical (with notions of phenomenology), media and 'theatrology' aesthetics, also involving aspects regarding the perception of movement studies.

- **Publications about *La Démence des anges* and the phase of research-creation being elaborated**

- Pitozzi, Enrico Fall 2005 **La “figura” oltre l’attore: verso un’estetica digitale**, in “Culture Teatrali”, n° 13: Bologna, Italie

- Pitozzi, Enrico 2007 **Seismography of the presence**. Text in publication on <http://presence.stanford.edu/>, platform of the international project of the Centre of Intermedia, directed by Nick Kaye and Gabriella Giannachi at Exeter University, England, in collaboration with Stanford University, United States of America. This website is about a project dedicated to research on the theme ‘presence in contemporary artistic scene’.

- Pitozzi, Enrico 2007 **Anatomie della presenza. Verso un riassetto della percezione per i tipi di Bulzoni**. Text in publication in the book '*la scena e lo schermo*' (temporary title), under the supervision of Gerardo Guccini & Guglielmo Pescatore: Roma, Bulzoni, Italie.

- **Comparative analysis to this day:**

I haven't really done any comparative analysis. I prefer to consider 'exact cores' from an operational and theoretical point of view, so I can understand the methods used to work on the multiple aspects of a same question. As an example, I often speak about the relationship between technology and a performer's perception; well, this brings me to analyze the different practices and levels of relationship through which technology contributes in modifying and widening the performer's perception.

These solutions, on an aesthetic point of view – c.f. composition plan – resonate with another very important concept for me, which is that of 'presence'.

In this context and based on my doctorate thesis, I've elaborated the concept of 'variation of presence'. To me, this concept works to understand the existing relationship between movements and the physically present body on stage, and its virtual signs, its ghosts, its shadows... its figurations.

From these prospective terminologies, I analyze, among other things, the works of *Kondition Pluriel* (Quebec); of visual artists Skoltz\_Kolgen (Quebec), *Dumb Type* (Japan), Cindy Van Acker (Switzerland), Myriam Gourfink (France), William Forsythe (Germany), Romeo Castellucci/Raffaello Sanzio (Italy), Roberto Paci Dalò/Giardini Pensili (Italy), Studio Azzurro (Italy)... and others.

- **Problematic:** Defining a new lexicon for scenic analysis methodology. The method I hereby use to define this lexicon goes through analyzing their works but, above all, their creation and composition processes, when possible.

## **Biography:**

Enrico Pitozzi is a professor-in-Charge of 'Forms of Multimedia Stage' at the University of Bologna and teaching 'Aesthetic interfaces' at the *Accademia di Belle Arti - Brera* in Milan. He was visiting professor at the *Université du Québec à Montréal – U.Q.A.M.* (Canada). He gives seminars and lectures at the *Universidade Federal da Bahia* (Brazil) and *Universidade Federal Rio do Sul do Porto Alegre* (Brazil) as well as the European Institutions and Universities. He currently collaborates with the scientific committee of the project *Performativité et effets de présence* directed by Josette Féral and Louise Poissant at the *Université du Québec à Montréal (U.Q.A.M.)* and the project *Poéticas Tecnológicas* directed by Ivani Santana at the *Universidade Federal de Bahia* (Brasil). He is a member of 'the Observatory' on the analysis of the movement led by choreographer Isabelle Choiniere (Montreal, Plymouth, Paris) and the multimedia laboratory *MeLa research* at the *IUAV University of Venice*. In 2007 his research on stage technologies has been listed by the section Arts/Performance of the 'P.E.A.C.H.- Presence Research in Action'. Since 2004 he has regularly published in specialised Italian and international magazines with essays on European, Canadian, United States of America and Japanese performing arts. He is editor of the Italian magazines *Art'O* and *Culture Teatrali* and he is a member of the Scientific Committee of the magazine *Antropologia e Teatro* at the University of Bologna (Italy) and the magazine *Moringa* at the *Universidade Federal da Paraiba* (Brasil). In 2005 he took part in the workshop within the '37th International Theatre Festival of Venice Biennale' directed by Romeo Castellucci. His international research focuses on the modalities of Neuro-physiologic functioning of movement, with a particular attention to the analysis and implications that involve imagination and memory processes in composing gestures beyond the intervention of technologies (motion capture) on the performer's perception. Results of

this research are available in the publications. In this frame he has concluded a book *Sismografie della presenza. Corpo, scena, dispositivi tecnologici*, Firenze, *La Casa Usher*, (Autumn 2014); *Spectra*, Bologna, C.L.U.E.B., (Summer 2014); a book about the movement composition by Myriam Gourfink (September 2014) and *Bodysoundscape. Perception, movement and audiovisual in contemporary dance*, in Yael Kaduri (dir.), *The Oxford Handbook of Music, Sound and Image in the Fine Arts*, Oxford, Oxford University Press, (2014).

### 8.2.7.3 Affiliated researcher: *Elysabeth Plourde*

**Researcher:** Elysabeth Plourde (1978)

Email: elysabethplourde@hotmail.com

**Research group name:** *Groupe SCÈNES* (Systemics, Complexity and New scenic writings)

**Main researchers and project directors:** Chantal Hébert and Irène Perelli-Contos

**Projet members:** Renée Champagne (2nd cycle), Mélissa Comtois (3rd cycle), Rosaline Deslauriers (3rd cycle), Hélène Jacques (3rd cycle) and Elizabeth Plourde (3rd cycle).

**Personal research:**

- **Researcher:** Elizabeth Plourde.
- **Doctorate in Literature and Screen and Scenic Arts**
- **Affiliated university:** *Université Laval* (Quebec).
- **Teaching** – recently: *Mise en scène I (travail dramaturgique); Approche systémique des pratiques artistiques contemporaines – Université Laval*
  
- **Temporary title of the thesis:** In building a projected bodies imagery in contemporary scenic writings: *the cases of Anima* (Michel Lemieux & Victor Pilon, 4D art) and *La Démence des anges* (Isabelle Choinière, *Le Corps Indice*).
- Thesis directed by Chantal Hébert.
- For more specific research activities (publications, multiple collaborations, communications, scientific activities, classes – readings and dramatic forms; *théâtre du Québec* since 1980 ; production and dramaturgic analysis –, *et caetera*).

- **Research field:** Contemporary Quebec scenic writings
- **Topic of my researches:** cohabitation of physical and artificial bodies (projected, virtual, *et caetera*) in theater and the influence it has on and in the performance stage.
- **More specifically, I plan to observe**
  - 1) The construction and functioning mechanisms of on-scene projected bodies (hybridation of living arts and new technologies).
  - 2) the organizational dynamics of the representative system when it hosts projected bodies (dynamics if complexity).
  - 3) The theatricality emerging from these new corporeality forms (dialogic principle which rearticulates opposites: living/inanimate, actual/virtual, biological/technological, *et caetera*).
- **Theoretical frame (thesis):** theories of complexity (c.f. references above)
- **Methodological approach:** systemic approach (c.f. references above)
- **Publications on *La Démence des anges*:**

PLOURDE, Elizabeth (2003), « **Pour le plaisir de ‘TRANS-Gresser’ les frontières. Le Mois Multi 2003** », dans les Cahiers de théâtre Jeu, no 108 (septembre), p. 156-162.

**Mois Multi 2003 Report.**

PLOURDE, Elizabeth (2003), « **Un ange venu du cyberspace. La Démence des anges** », dans les Cahiers de théâtre Jeu, no 108 (September), pp. 132-135.

PLOURDE, Elizabeth (2007), « **Extensions et médiatisations du corps scénique: le cas de La Démence des anges d’Isabelle Choinière** », actes du 7e colloque international du Centre de recherche sur l’intermédialité (CRI), to be printed.

As of this date, no publication on the Web.

As of this date, no comparative analysis. In my thesis, the conclusion should include a section where *La Démence des Anges* and *Anima* are related, but always in the perspective of the thesis problematic, I mean in the way in which the projected bodies live in and modify the performance area.

**Research in the context of the research group:**

**Elizabeth Plourde:** Doctorate in Literature and Screen and Scenic Arts. The construction of an imagery of projected bodies in contemporary scenic writings: the cases of *Anima* (Michel Lemieux & Victor Pilon, 4D art) and *La Démence des anges* (Isabelle Choinière, *Le Corps Indice*), supervised by Chantal Hébert.

Hélène Jacques: Doctorate in Literature and Screen and Scenic Arts. New forms of action (acting?) in Denis Marleau's productions (Théâtre Ubu), supervised by Chantal Hébert.

Mélissa Comtois: Doctorate in Literature and Screen and Scenic Arts. Towards an aesthetic of complexity: new technologies and scenic multidisciplinary in the works of *Productions Recto-Verso* (Caroline Ross & Émile Morin), supervised by Chantal Hébert.

Rosaline Deslauriers: Doctorate in Literature and Screen and Scenic Arts. Towards a poetic in-between: Voicing the Way and Ways of the Arts at *Théâtre du Lierre*, directed by Irène Perelli-Contos.



Renée Champagne: Master in Creation-Research, Screen and Scenic Arts. *The sea*: a double optical production, directed by Luis Thenon and Irène Perelli-Contos.

- In our works, we have specifically witnessed the creation process of the *2191 nuits* shows of *Théâtre des Deux Mondes* (Daniel Meilleur) and *Le Projet Andersen of Ex Machina* (Robert Lepage).

- **Affiliated university:** *Université Laval* (Quebec).

- **Affiliated research centers:**

- *Laboratoire des nouvelles technologies de l'image, du son et de la scène* (*L.A.N.T.I.S.S.*). No available website for the moment.

- *Centre de recherche interuniversitaire sur la littérature et la culture québécoises* -*C.R.I.L.C.Q.* *C.R.I.L.C.Q.*'s website hosts the group homepage. Unfortunately, it does not contain any significant information.

Website: [http://www.crilcq.org/recherche/poetique\\_esthetique/theatre\\_operations.asp](http://www.crilcq.org/recherche/poetique_esthetique/theatre_operations.asp).

- **Research group premises:** these works that are of interest to us are about complex scenic writings.

- **Research group problematic:** How to reveal the complexity of such works (by analyzing them and their creation process).

- **Intelligibility Frames:** Theories of complexity. The complex thought, as defined by French sociologist Edgar Morin in 'La Méthode'.

- **Methodological approach:** Systemic analysis, in its larger meaning, but applied to artistic objects.

## **8.3 Appendix 3 – Technical informations**

### 8.3.1 Technical specifications on *La démente des anges*

#### ***La Démente des anges: technological general survey***

##### **Wink on the show technical side**

The different processes described here have been developed or incorporated to the work in order to link to distant bodies in a single space, the scene of the show. So the dancer present on a stage has its performance image and sonorous body “projected” on a second stage, accompanying the second dancer. This performance recuperation is made possible by a videoconference system and a MIDI data transmission network (through Internet).

##### **Videoconference**

The system consists of a single audio / video H.320 digital card and a control program, using a ISDN line with two 64 Kbps channels establishing a point-by-point connexion using CIF or QCIF transmission protocol for the video and G711, G722 or G728 for the sound. The live integration is made in the following way: a dancer is filmed in a secondary space and it’s sound and image is transmitted to the show’s control booth by the ISDN line. The two sources are then treated and broadcasted in the main space. It’s all made in real-time considering that the minimal transmission delay is used in a creative way in the video processing.

## **MIDI data transmission through Internet**

Concerning the sound, the ambience capture of a secondary space is one thing in itself, but we wanted to push forward the integration of the distant performance. So both dancers are equipped with sensors to recuperate the dynamic of both gestures and to give a sonorous existence to the movements with the assignation of speed data to the MIDI sound control (with previous synthesizer sounds).

The network problematic was to be able to transmit a continuous flow of MIDI data through Internet as many of the software we tested, W-client for example, were not allowing. Then we've tried MAX, a control and programming software that we were already using on the production and the response appeared to be the Open Sound Control object allowing to interact directly with a designed interlocutor by knowing its IP address. The protocol used by this object is a sub-layer of the TCP/IP called UDP that presents the interesting characteristic of allowing the circulation of data without any form of control on the nature of the data (compared to the TCP/IP that organizes the data into small packages and greatly reduces the possibilities of a continuous information representation).

## **The microphone-sensors**

The movement capture with microphone was the idea of Thierry Fournier, composer for *La Démence des anges*. It came as an answer to the need to scale the speed of movement, which was necessary to control the different musical and visual aspects of the show. The sensors are simple wireless Lavalier microphones, placed on appropriate places on the dancers (as fingertips) to transmit the pressure created by movements to the MAX and MSP software through the audio entry of a computer. The pressure can be scaled and then used as MIDI data. This signal, representative of the

movement of both dancers, is imposing a dynamic frame to different sounds associated with movements and is imposing an ambiance velocity, generated by the choreographic performance of each dancer.

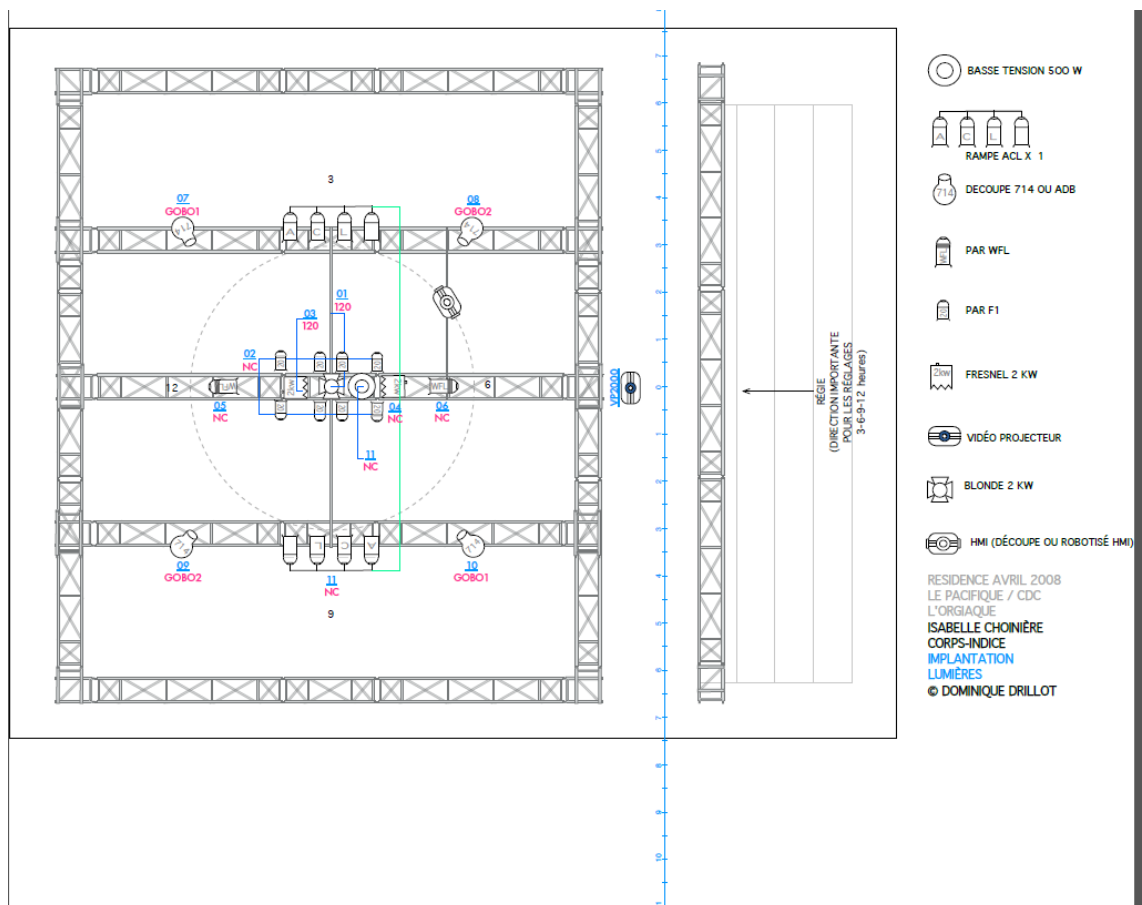
### **Communication technologies development and connectivity description**

- Network architecture development for two or many different places through Internet
  
- Socket connections (semi-permanent) using the UDP Internet layer. This link is bi-directional in order to communicate from one computer to another without any apparent delay. This kind of connection is technically similar to ones used for interactive Web video games.
  
- The software which are communicating between themselves on the different computers are written with MAX, a multimedia integration environment, designed for electronic music and stage interactivity. MAX is a commercial software designed by the IRCAM laboratories in Paris.
  
- MAX acts as the control center for the show, articulating the different technical elements of the performances, as the sensors that the dancers wear, the generation of sound, the control of the lights and the video and the information exchange through the network.
  
- On the show *La Démence des anges*, the information exchanged on the network depends mainly of the activity of the sensors, themselves directly linked to the dancers' movements. This information is mainly used to generate the live music background that

is modulated by the dancers. The two control booths, linked by Internet, are exchanging and managing cues and MIDI data in real-time.



### 8.3.3 Technical plan and sheet of *CDC - Le Pacific* Residency space of phase #3



# LE PACIFIQUE | CDC

## Fiche technique

ERP : type L de 4eme catégorie

Mise à jour : 5/10/2011



### Le Pacifique | CDC

30 chemin des Alpines - 38100 Grenoble  
Tél : 04 76 46 33 88 - Fax : 04 76 47 32 40  
[www.pacifique-cdc.com](http://www.pacifique-cdc.com) / [contact@pacifique-cdc.com](mailto:contact@pacifique-cdc.com)

Régisseur général : **André-Paul VENANS**  
06 07 55 18 95 / [technique-@pacifique-cdc.com](mailto:technique-@pacifique-cdc.com)

Soutiens du le Ministère de la Culture et de la Communication,  
la Région Rhône-Alpes, le Conseil général de l'Isère et la Ville de Grenoble

Photos : Christian Rausch



**CDC | LE PACIFIQUE**  
Centre de Développement Chorégraphique



### **Pacifique sud (petit studio)**

**Capacité :** 49 personnes

**Dimensions :**

Largeur : 10,16 m

Longueur : 16,80 m

Hauteur : 3,57 m



**Caractéristiques :**

Sol : parquet en châtaigner clair 22 millimètres posé sur lambourde, tapis de danse noir réversible gris  
Mur blanc avec grandes baies vitrées, une donnant sur extérieur, l'autre sur intérieur (patio avec olivier)  
; baies équipées de rideaux

Eclairage par 25 bords néon au plafond

Attention, aucune accroche n'est possible que ce soit sur les murs ou le plafond

L'accès aux loges n'est pas direct, il passe par un couloir

**Equipements techniques :**

5 prises 16A réparties autour du studio

1 rack SON comprenant :

- un double cassette TECHNICS

- une platine laser TEAC

- 2 entrées micros

- 1 entrée auxiliaire

- 1 mix

- 1 ampli QSC 850

2 enceintes DYNACORD 200 w pour la diffusion

**Equipements mobiles :**

1 vidéo projecteur Mitsubishi 5000 lu

1 vidéo projecteur Mitsubishi 2000 lu

1 lecteur de DVD

2 télévisions 37, 52, de diagonal écran

1 plancher pour le flamenco de 2,50 par 2,44

20 chaises noires

Tapis de danse blanc et noir 9m par 8.80m

## Pacifique Nord (grand plateau)

**Capacité :** 150 personnes  
Gradin amovible de 100 places  
50 personnes sur le plateau  
**Dimensions :**  
Ouverture mur à mur : 15m  
Profondeur mur à mur : 18,75 m  
Hauteur sous perche : 6 m  
Profondeur scène : 13,75



### **Caractéristiques :**

Sol : parquet en châtaigner clair 22 millimètres posé sur lambourde, tapis de danse noir réversible gris,  
Mur noir, cage de scène noire ; baie vitrée donnant sur patio à cour pouvant être masquée par un rideau velours noir  
Accès au loge direct par une porte au lointain cour  
Accès au local décorotechnique par une porte au lointain jardin : hauteur 4m largeur 2,90m  
Régie placée derrière les gradins au centre, capacité quatre personnes  
Local électrique deux mètres carrés à jardin  
Eclairage par 3 rangées de double néon sur toute la profondeur ou 12 quartzs 1000w graduables

### **Equipements techniques :**

#### **Plateau**

Grill pont de 500 triangulé sur quatre moteurs de 1 tonne chacun, 9,50 m de profondeur et 14 m d'ouverture, 6,40 m de haut sous perche, accroche pour 10 kg au mètre linéaire.  
Pont de face 500 triangulé 2 moteurs, 14 m d'ouverture hauteur 6m 10 kg au mètre linéaire  
Possibilité de rajouter des perches sur le Grill, 4 perches de 6m et 12 de 3m  
2 pendrillons de 2,5m par 6m  
2 pendrillons de 2,60m par 6m  
2 pendrillons de 2,80m par 6m  
2 pendrillons de 3,40m par 6m  
2 Fond de scène 6m par 6m  
6 frises 1m par 5m  
3 frises de 1,5m par 5  
1 écran blanc de 12m par 4,90m  
1 machine à fumée Unique 2.1 look (DMX)

#### **Local électrique**

160 A en tête répartie en 4 prises P17 32 A à l'intérieur du local électrique et 5 autres autour du studio avec DMX à proximité des prises  
Commande des ponts par télécommande

#### **Equipements Lumière**

6 Pars 64 fut cour en CP 95  
13 Pars 64 ( Lampes 60,61, 62 )  
9 Pars beam à lentille interchangeable (60, 61, 62, 95, )  
2 2kw Fresnel ADB  
2 découpes 714 Julia  
14 découpes DW105 ADB  
2 découpes 613sx Julia  
16 PC 1000 ADB  
2 Blondes 2Kw  
1 Mandarine 800w  
1 BT 500  
1 barre ACL alu  
1 rampe T10  
9 Pars 20 75w  
6 F1  
8 Pars à led RGB OXO multibeam zoom réglable(8 circuits)  
2 mini beam OXO RGB  
3 dijs 6 circuits de 3 kW Juliat 5tour  
1 diji julia Tyvolie 24 circuits 2kw  
2 pieds K et M avec barre de couplage  
6 platines  
1 jeu d'orgue Congo Kid ETC 256 circuits  
1 jeu d'orgue manuel 6 circuits sans préparation

#### **Equipement Son**

Diffusion  
2 DS 12 sur pieds  
6 mackis 450w pré- amplifié sur pied  
2 sub Mackis pré-amplifié  
1 rack comprenne 1 ampli QSC 1850 HD ; 1 mix avec 2 entrés micros, 1 platine CD, 2 aux  
1 platine CD Yamaha CDX 496  
1 platine CD SONY ( avec auto pose )  
1 platine CD TEAC  
1 03D YAMAHA  
1 table de mixage Yamaha MG12/4  
1 micro HF main Sennheiser e945  
1 micro AKG D880m  
2 micros SM58 Shure

#### **Equipements mobiles :**

1 vidéo projecteur Mitsubishi 5000 lu  
1 vidéo projecteur Mitsubishi 2000 lu  
1 lecteur de DVD  
1 magnétoscope  
2 télé 37, 52, de diagonal écran  
1 plancher pour le flamenco de 2,50 par 2,44  
Tapis de danse blanc et noir 9m par 8.80m

Plan du pont lumière du studio nord :

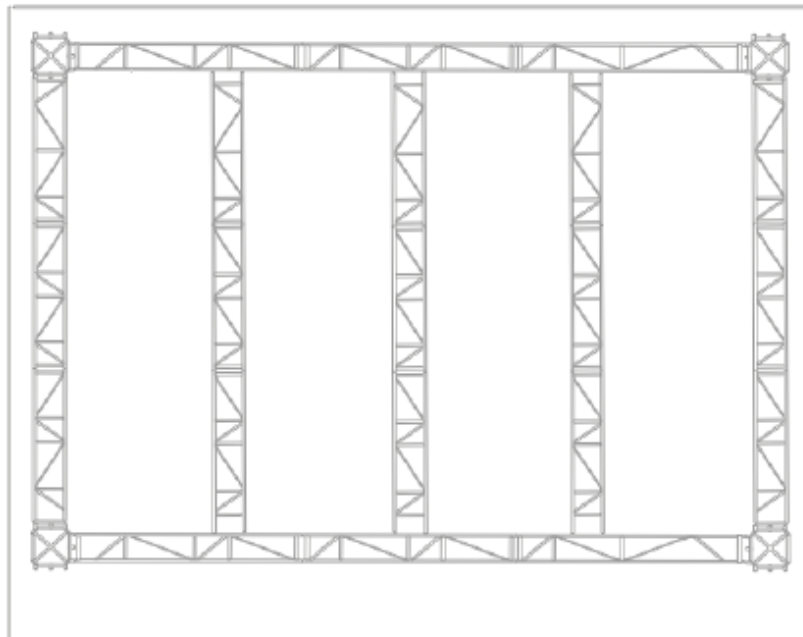
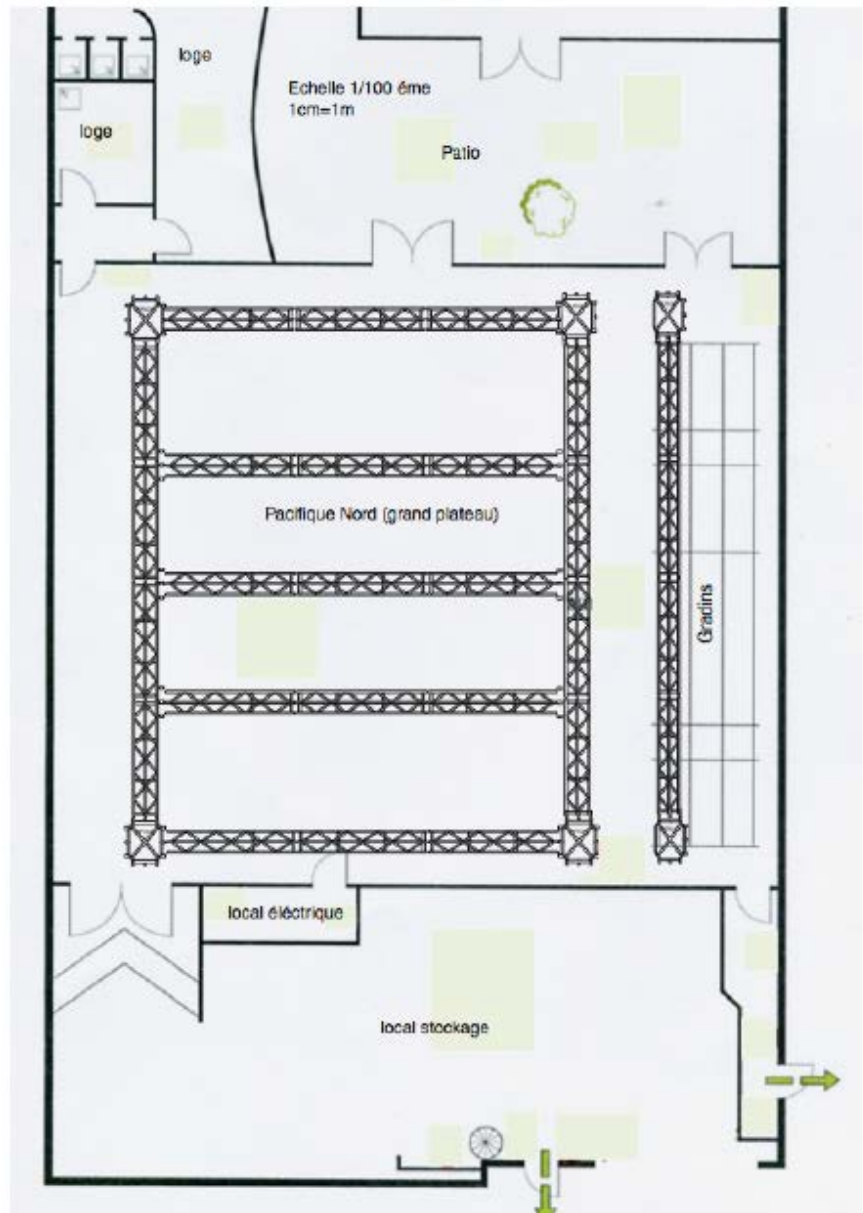


table de danse bord scène

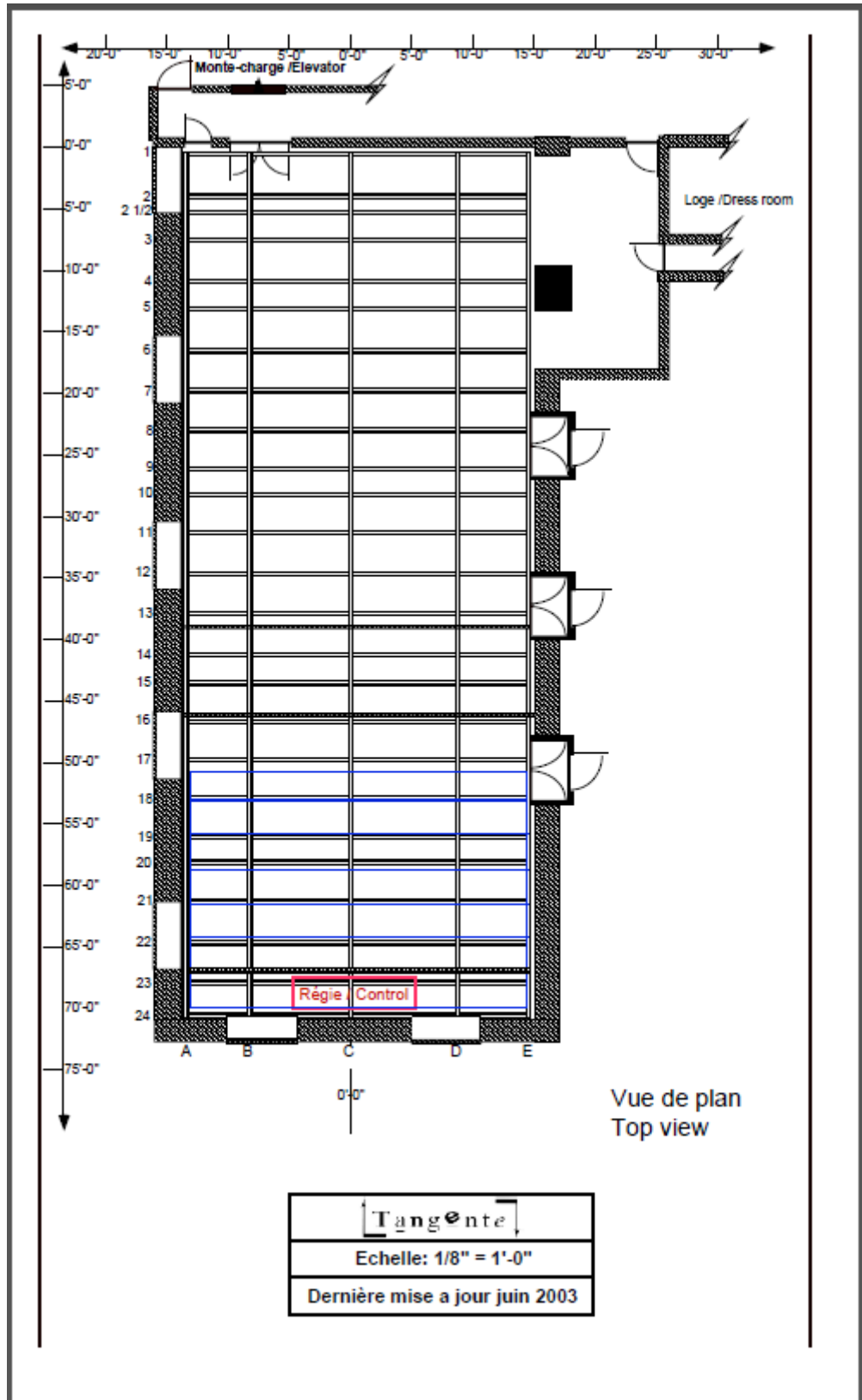


régie

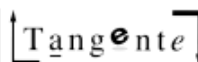
Echelle 1/75  
Pacifique CDC 30 Chemin des Alpins  
38100 Grenoble



8.3.4 Technical plan and sheet of *Tangente*  
Residency space of phase #3



## FICHE TECHNIQUE / TECHNICAL INFORMATION



840 Cherrier, Montréal, Québec, H2L 1H4 (514) 525-5584 FAX : (514) 525-1860 www.tangente.qc.ca

Directeur technique / Technical Director : Paul Chambers

### 1. Entrée des décors / Set entrance: Ruelle arrière, coin est / Back alley, east corner.

Dimensions :	-Porte d'accès/Access door :	1,4m x 2m (5'-6" x 6'-8")
	-Corridor d'accès/Access corridor :	1,3m (5')
	-Porte du monte-charge/Loading door :	1,2m x 2,4m (4'-2" x 8'-0")
	-Porte d'accès de la salle/Stage access door:	1,1m x 1,9m (4'-8" x 6'-1")

### 2. La scène / The stage

- Plancher résilient en bois franc verni lustré, couleur naturelle. Il est interdit de clouer et de visser, de coller ou de peindre le plancher. S'il y a utilisation d'eau, de sable, etc. lors d'un spectacle, vous devez obligatoirement utiliser le tapis de danse. Tout matériel scénique dégageant une poussière excessive est interdit.
- Sprung wood floor, natural blond color. No nails, screws, glue or paint can be applied. If using water, sand, etc. in a performance, you must use the dance floor. Sets must not shed excessive dust.*

Dimensions :	-Salle/Hall :	21,7m x 8,9m (71' x 29')
	-Scène avec gradin/Stage with bleachers:	15m x 8,9m (46'3" x 29')
	-Hauteur porteuses / Grid	4 m ( 13'5")
	-Dégagement de scène situé arrière côté cour :	5,8m x 2,8m (19' x 9')
	-Nombre de sièges avec gradin/Number of bleacher seats:	91 sièges/seats.

### 3. Loge / Dressing room

- Une loge pouvant accueillir 6 personnes assises avec service de toilette et donnant sur le dégagement à l'arrière-scène côté cour. Douches au sous-sol.
- The dressing room seats 6 peoples, with an adjacent toilet. Acces from upstage stage-right.*

### 4. Tapis de danse / Dance floor

- Tapis Arlequin réversible noir et blanc / *Arlequin reversible black and white*, composé de 7 laizes 9m x 2m(29' x 6'6") pour une dimension totale de 15m x 8,9m (29' x 46'3").

### 5. Habillage / Curtains

- 1 mi -scène en deux pièces de velours noir sur patience mobile 10m x 4m (33' x 13'5")
- 8 pendrillons de velours noir 2,4m x 4,1m
- 8 pendrillons sur allemande fixe de chaque côté de la scène
- 3 frises de velours noir de 1,8m x 1,5 m(6' x 5')
- 3 frises de velours noir (2' x 30')
- 1 Tulle noir 12'5" x 28'
- 1 Cyclorama blanc coton 28'x 13'5"

### 6. Régie/ Control board

- la régie de son et d'éclairage est située dans le gradin au centre de la dernière rangée. / *Location is in the center of the last row of the bleachers.*

### 7. Éclairage / Lighting alimentation : 120/208 volts, 3 phases, 4 conducteurs, 200 amps.

Demandez notre liste de gélamines / *Ask for gel list.*

- 60 gradateurs 2.4K avec circuiterie mobile
- 1 Console Strand série 300
- 30 Fresnels 1000w
- 30 ETC zoom 25-50°/ 750w
- 12 Pars 64 medfl / 1000w
- 3 Iris triple - 3x 1000w
- 8 Portants(boom) 9'
- 12 Bases pour projecteur au sol/floor stand
- X Extensions GTL de 5', 10', 15', 20', 30' en nombres.

### 8. Vidéo/ Multimedia

- 1 Projecteur SHARP 4000 lumens XGA
- 1 lentille/ lens 1,32-1,52
- 1 Projecteur tri-standard, SONY VPH 1041Q (\$50.00 Frais de Calibration)
- 1 Lecteur DVD Tascam
- 1 console vidéo/ video mixer Edirol V4 + moniteur couleur 9"
- 1 câble BNC 100' + 1 câble VGA 100'

### 9. Son / Sound alimentation 120/200 v. 3 phases, 4 conducteurs et mise à terre indépendante, 100 Amp.



- 1 Console/ *mixing board* Allen & Heath GL2200 16/4/2
- 4 Enceintes/ *Speakers* EAW JF-100
- 1 Sub Meyer UMS- 1P
- 1 Enceinte/ *Speaker* DYNA cord AM12
- 2 Ampli QSC
- 2 EQ stéréo DOD
- 1 Lecteur laser double Denon
- 1 Digitech DSP-258
- 1 TC Electro M-ONE XL
- 2 Microphones SM58 ( selon disponibilité )
- 2 Microphones 521 ( selon disponibilité )
- 2 Microphones 451 ( selon disponibilité )
- 2 Microphone sans fil/wireless *Sennheiser* EW-312 et 352 avec 2 récepteurs/transmitters
- 4 pieds de micro perche/ *boom stands*
- 2 direct box IMP2, whirlwind
- X Câble speakon et XLR en nombres
- 1 Console/ *mixing board de répétition* Alto L-12
- 1 Microphone sans –fil Audio Technica T802A

#### 10. Interphone / Headphone

- 1 station maîtresse deux canaux
- 3 belt-packs
- 3 casques/head sets

#### 11. Équipement supplémentaire / Shared equipment

Doit être réservé à l'avance/Must be reserved in advance.

- 2 écrans DRAPPER CINEFOLD 9' x 12' face et rétro
- 2 écrans DRAPPER CINEFOLD 10'8" x 14' face et rétro
- 1 Projecteur 16mm XENON EIKI EX 5500A
- 3 Projecteurs à diapositives/slides auto focus KODAK
- Lentilles/Lens ZOOM ELMO F3.5, 100-150mm
- 1 Systèmes de fondu CLEARLIGHT modèle MDD
- 1 Piano droit de marque SCHIEDMAYER C-114

#### INFORMATION SUPPLÉMENTAIRE / ADDITIONAL INFORMATION

#### 12. Soirée partagée / Shared night

- Pour les spectacles de **3 artistes et plus**. Un éclairage général est imposé (voir plan#2) les lampes restantes et qui sont à partager pour vos spéciaux sont / *For the shared night with 3 artists and more. A general lamp plot is imposed(see plan #2) The projectors left for your special divided by the number of artist are*
  - 12 fresnels 500w.
  - 12 pars 1000w.
  - 30 ETC varifocal 25-50° 750w
  - 42 gradateurs 2.4k

#### 13. Changement de décors / Set change

- Les changements de décor entre les pièces que vous présentez doivent se faire en moins de 2 minutes. Si nécessaire, il y aura un entracte de 15 minutes / *Set changes between pieces must not exceed 2 minutes. When necessary, there will be an intermission of 15 minutes.*

#### 14. Plan d'éclairage / Lighting plan

- Les plans d'éclairages doivent être fournis au Directeur Technique au minimum deux semaines avant la première. / *The lighting plot must be given to the Technical Director minimum two week before your show is on.*
- Si nécessaire, Tangente peut vous offrir les services d'un concepteur d'éclairage. Le cachet demandé sera de 350\$ et plus, selon la complexité du travail. Pour plus d'information, contactez notre directeur technique. / *Tangente can offer you the services of a lighting designer. The cost is 350\$ minimum, depending on the complexity of the work. For more information, please contact our Technical Director.*

#### 15. Équipement additionnel/ Additional Equipment

- Toute location d'équipement additionnel sera facturée à l'artiste. De même que la conception d'éclairage réalisée par Tangente. / *The artist will be charge for any additional equipment not include in our list and be charged for any lightning design executed by Tangente.*

Au plaisir de vous rencontrer, l'équipe Technique / It will be a pleasure to meet you, The Technical Team



## 8.4 Appendix 4 – Part of previous research

### 8.4.1 Research on somatic practice – July 2006

#### RDC2 -Point 3.3 July 2006 – research on somatic practice

##### Theoretical Research

As I stated in the introduction of this report the influence of Roy Ascott and his research group Planetary Collegium have radically changed my approach to technology. Also, the presence of two Brazilian researchers, Cristina Miranda and Carlos Nobrega, introduced me to the artistic research of Brazilian artists such as Lygia Clark and Hélio Oiticica. Their theories and practical work contributed to this creative destabilization in which I find myself. I thus began to envisage that the body could be 'my approach to technology', that a choreographic structure reflecting interconnectivity could take Lygia Clark's collective body concept as a model, and that the concept of interconnectivity could be lived through the body using somatic techniques and be a bridge between the real and immaterial worlds (Osthoff 2004<sup>281</sup>). Therefore, an approach to technology that takes leave of 'materiality' (robotic, *et caetera*).

I also pursued research on the concept of energy. The changes in the paradigm in relation to energy, (for example: Quantum physics theories) link our contemporary scientific concepts about energy (Bergson 1966<sup>282</sup>; Sheldrake 1995<sup>283</sup>) to the traditional concepts of energy that have been present for ages in ancient and now-western cultures.

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<sup>281</sup> Osthoff, S. (Revised on November 23, 2004) 'Lygia Clark and Hélio Oiticica: A Legacy of Interactivity and Participation for a Telematic Future', *Leonardo On-line*. p.8, viewed 22 May 2007, online: <http://mitpress2.mit.edu/e-journals/Leonardo/isast/spec.projects/osthoff/osthoff.htm>

<sup>282</sup> Bergson, Henri (1966) *L'évolution créatrice*, Paris: Presse Universitaire de France, Bibliothèque de Philosophie Contemporaine.

<sup>283</sup> Sheldrake, Rupert (1995) *A new Science of Life; Morphic resonance*, Vermont, United States: Park Street Press.

But in this conference, I mostly examined the idea that the body could be my approach to technology. This has been at the centre of my research and has led me to study the somatic sciences (Ginsburg 2006<sup>284</sup>; Berthoz 1997<sup>285</sup>). The somatic applications are centered on being conscious of the body in movement. They consist in learning the synergetic interaction processes between consciousness, movement and environment. They are the study of experimental corporeality (for example: Alexander, Bartenieff, Body-Mind Centering, Feldenkrais, Pilates, *et caetera*). This development of this text's ideas will address the following questions:

- Which is this notion of 'sixth sense' linked to movement?
- Is the body the technology to be used to activate a state of an enlarged consciousness?
- Are somatic practices as well as corporal patterns their tools?
- What would be an approach for interconnectivity that seems to be related to the first two points?

In a metaphorical sense, I could say that the body is the entity that will reveal the future. Ginsburg and Berthoz suggest that somatic practices and the nervous system are probably connecting threads that will lead to answers. These authors put these ideas forward and they examined movement and perception from a neurobiologist's point of view (who knows all the integrative and connective aspects of biological systems).

Is it therefore the body that thinks? Feldenkrais suggests that corporal consciousness of one's movements gives one access to perceiving in action something which was not perceivable by one's previous state of consciousness. Feldenkrais also

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<sup>284</sup> Ginsburg, Carl (2006) 'Le Mouvement et l'esprit; une critique en forme d'essai', *In: Nouvelles de Danse*, no. 53 *Scientifiquement Danse; Quand la danse puise aux sciences et réciproquement*, Bruxelles, Belgique.

<sup>285</sup> Berthoz, Alain (1997) *Le sens du mouvement*, Paris: Editions Odile Jacob.

sais that perception is a multisensorial process and that movement is the essential result of brain activity, and that an integrative, dynamic and biology-oriented approach is necessary to sufficiently understand it. Thus besides, proprioception has often been identified as the 'sixth sense'. According to these studies, perception thus precedes conceptual thinking. Fendelkrais can therefore suggest that we think directly while we are in action.

It is worth noting that in his book *'La Maîtrise du mouvement'*, Laban speaks of thought in movement, that Gibson has a similar concept with the notion 'affordance', and that Nietzsche also had this intuition when he spoke of the 'thinking body' in his book *'Thus Spoke Zarathustra'*. I would add 'of the body in movement that thinks'. This will be treated in my April 2008 research work.

Change of second supervisor:

2<sup>nd</sup> Supervisor: Armando Menicacci, *University Paris VIII*, France. Dance Departement Doctorate in Dance and Computer Science from *Université Paris 8*.

With his colleague Emanuele Quinz: visit of the *Centre des arts d'Enghien-les-bains* studios during research residencies. In looking back on the practical research that I undertook there: introduction to the ideas to be presented in the next research stage, notably on the ideas of Laban and Bernard.

The conference that summed up this stage was titled: 'Cosmological disruption and paradigm linked to the concept of energy: Looking for a choreographic model adapted to our time'.

**RDC2 - Point 3.5 April 2007 – Montreal: research on Erotism**

Theoretical Research

In this research report I have sought to lay out the primary elements of my research. Basing myself on my previous presentation, in which I identified the principle constitutive elements of my research, this report sought to:

- To delimit my research problem;
- Identify the key elements of my research;
- Develop the main tools to undertake the research (review my bibliographies and research tools (Cryer 2000<sup>286</sup> ; Mattéi 1992<sup>287</sup>):
- Define eroticism through an examination of Bataille's main works and their context (Bataille 1957<sup>288</sup>; Bataille 1961<sup>289</sup>; Bataille 1949/1967<sup>290</sup>; Barthes 1973<sup>291</sup>)
- Begin to define the orgiastic in order to distinguish from the erotic and to better situate the concept within my practical work (Dourthe 1999<sup>292</sup>; Rolnik 2005<sup>293</sup>)

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<sup>286</sup> Cryer, Pat (2000) *The research Student's Guide to Success*, Maidenhead, Berkshire: Open University Press Edition.

<sup>287</sup> Mattéi, Jean-François (1992) *Les oeuvres philosophiques; Dictionnaire 2 (Philosophie occidentale de 1889-1990)*, Paris, France: Edition Presses Universitaires de France, Encyclopédie Philosophique Universelle.

<sup>288</sup> Bataille, Georges (1957) *L'érotisme*, Paris, France: Éditions de Minuit, Collection 10-18.

<sup>289</sup> Bataille Georges (1961) *Les Larmes d'Éros*, Paris, France: Éditions de Minuit, Collection 10-18.

<sup>290</sup> Bataille, Georges [1949] (1967) *La part maudite, précédé de la notion de dépense*, Paris, France: Éditions de Minuit, Collection Critique.

<sup>291</sup> Barthes, Roland (1973) *Le plaisir du texte*, Paris, France: Éditions du Seuil.

<sup>292</sup> Dourthe, Pierre (1999) *Bellmer; Le principe de la perversion*, Paris, France: Jean-Pierre Faur Editeur.

<sup>293</sup> Rolnik, Suely & Diserens, Corinne (org.) (2005) 'Lygia Clark, De l'oeuvre à l'événement. Nous sommes le moule. A vous de donner le souffle', *In: Catalogue Editor Musée des Beaux-arts*, Nantes, France, pp. 247-249.

## **8.5 Appendix 5 – DVD content**