FIRST TELEMATICS EXPERIENCES OF THE GRUPO DE PESQUISA POÉTICAS TECNOLÓGICAS: CORPOAUDIOVISUAL

Ivani Santana
IHAC, PPGAC/UFBA

Translation: Leslie Damasceno

Abstract

This essay addresses works developed in Brazil with the Grupo de Pesquisa Poéticas Tecnológicas: Corpoaudiovisual, whose inaugural work, *VERSUS* (2005), was created especially for the launch of the Ipê Network, the academic network of advanced Internet technology managed by the RNP (The Brazilian National Research and Educational Network). In addition to its technological utility, my goal in technological mediation with dancing has always also been oriented to research on how the dancer's perception is sparked to seek out new modes of movement, and new understandings of composition and improvisation. With telematics, questions about presence, proximity and distance, space and time, among other things arise re-dimensioned by cyberculture. My experiences in dance with technological mediation, since the '90s, have allowed me to immerse myself in processes and achievements for the development of telematics dance in Brazil. The resulting conceptual, aesthetic and technical developments have been applied in various artistic and academic investigations during these 10 years of research. This text will address the Grupo Poética's first works, created between 2005 and 2008: *VERSUS* (2005), *Por onde cruzam alamedas* (2006) and *(In)TOQue* (2008).

Keywords

telematics, space-time perception, presence, network.

He believed in infinite series of times, in a growing and vertiginous net of divergent, convergent and parallel times. This network of times that approached one another, that bifurcate, intersect or were unaware of one another for centuries embraces *all* possibilities. (Borges, 2001: 113)

I'll begin by a provisional ending, not definitive, but one that seeks to evaluate conclusions coming from 10 years of researching telematics, creating and living different experiences in artistic processes varying in size, proportion and scope. In this present moment of remembrance, a recounting of perceptions and experiences gleaned some few years ago, time has emerged as an extraordinary motif, appropriate to the cyberspace context. The epigraph cited above functions to inscribe the fantastical notions of time treated by the Argentine writer Jorge Luis Borges in his 1941 short story, "The Garden of Forking Paths" (Borges, 2001) into the theme of this article. By its non-linear narrative connections, references and situations that are connected by various labyrinthine layers of stories overlapping spaces and times, Borges' story already communicates an understanding of the complex, dynamic system found in nature and in human cognition that digital cameras seek to materialize. The police-spy adventure pits together East and West in a cunning plot full of metaphors in which the author perceives life like a book, like an invisible labyrinth of time. And, so thus as it was written by Ts'ui Pen, central character around whom the entire narrative is built: *"I leave to the various futures (not to all) my garden of forking paths."* (Borges, 2001: 19)

Despite time being investigated more centrally only in my later works analyzed in the articles "O Corpo do Tempo: Dança Telemática" (Santana, 2012) and "Networked Dance Performance: a new Temporality" (Santana, 2013),[1] Borges' tale provided the stimulus for the creation of the telematics performance Por onde cruzam as alamedas (*Where Paths Cross*, 2006),[2] which belongs to the A.L.I.C.E Project (Apropriação de Linguagem Interative do CiberEspaço / Appropriation of Interactive Language cyberspace). The ideas revealed in this performance, a performance study carried out between two spaces of the Federal University of Bahia (the Salão Nobre da Reitoria/The Noble Hall of the Administration Building; and the Teatro do Movimento, Escola de Dança/Theater of Moviment, School of Dance) were already subliminally embedded in creating *VERSUS* (2005), a performance created especially for the launch of the new multigigabit infrastructure of the academic network - Network Ipê -, in honor of the anniversary of the Ministério de Ciência e Tecnologia (Ministry of Science and Technology), at the invitation and with support from The Brazilian National Research and Educational Network (Rede Nacional de Ensino e Pesquisa - RNP). The project was carried out with partner groups from the Federal University of Paraíba, the Laboratório de Vídeo Digital (Laboratory of Digital Video), coordinated by Prof. Guido Lemos, and the Laboratório de Composição

Musical (Laboratory of Musical Composition), coordinated by Didier Guigue, with the participation of the electroacoustic music group Log3, which in addition to Guigue, included musicians Marcilio Onofre and Ticiano Rocha.[3]

VERSUS was performed in three cities: Salvador (Point of Presence 1), Brasilia (Point of Presence 2) and João Pessoa (Point of Presence 3). The dancers of the Grupo de Dança (GDC, Escola de Dança / UFBA) and members of the Grupo de Pesquisa Poéticas Tecnológicas (GP Poética) were in the first two cities, and in the last, were the musicians composing in real time. All artists involved worked in real time, seeking an interaction over the network, and the public could attend in Brasilia or through the Internet. The Point of Presence 1 was configured with 2 ambiences, one with a white screen projected interactive images and videographs processed in real time by the program Isadora, and the other with a black background. The aim was to turn this point of presence into a sensitive area in which the image of the dancer could be captured and processed before being sent to the Point of Presence 2. While in Brasilia dancers always received the image from their partners in a the 3 screens of the stage, in Salvador the complexity of the sensitive environment created new dynamics and demands for the group since the image of the remote partners was broadcast on monitors positioned on the sides and front of the space, functioning as spatiotemporal reference guides. This conFiguretion allowed the dancer to have a spatial reference to his or her own body in relation to its companion located in another space (Fig. 1).[4]

In the show VERSUS there is a scene in which the dancer Monica Santos, located in Salvador, has to follow in the direction indicated by the dancer Hugo Leonardo, located in Brasilia. Hugo dances in front of Monica's image projected on the screen, however, Monica has the image in four monitors that serve as a guide for her to know how and where to move. In one of the group's reflections, we realized that the dancer moves the image of his or her own image while it is dancing with another: in other words, it's as if the command changed and what actually moved was no longer directly the body, but its image. The sensation (illusion) is that it is through activating the image that the physical body begins to dance. In this sense, I consider that what I call a a perceptive feedback occurs as to body image movement, because, while it is clear that the physical body moved first, it is necessary that the image's return "confirm" what, how and where it happened so the action has continuity (Santana, 2012: 58).

Figure 1. *VERSUS* (2005). Performers: Hugo Leonardo e
Monica Santos

Both the configuration of the sensitive space in Salvador, as well as the very telematics relation explained above, are environments designed to provoke new sensorimotor stimuli to the dancers, also to understand the new corporeal demands that technological mediation can offer to expand the possibilities perceptive of each agent involved.

From the creative point of view, these performances offer another compositional and dramaturgical form that, as in the Borges text, promotes several temporal and spatial overlappings. In order to conceptualize the performance, one must keep in mind these layers in an articulated manner. The points of presence should work linking the existing properties in each. Rather than making up all the spaces as if they were one, or putting them as identical spaces, we seek to interpolate the reality mediated by telematics from a point of presence onto the other. Whereas in Salvador there were two stages, one with a white screen for the processed images, and one with the black background, Brasilia had three screens: the central, in which interaction with the Point of Presence 1 was privileged, a screen on the side to display the musicians located in João Pessoa, and on the other lateral screen, cropped images were transmitted from the location so they could show the integration between Point 1 and Point 2, or just multiply an existing image in its own environment. In addition, to design the work it was also necessary to create the desired framework for the public to watch online, live, through the RNP site. A camera located in Brasilia was responsible for composing the events on stage with the screen images, thus forming a composition between the points of presence.

This description reveals the degree of complexity behind creating a performance like this, since we work with layers of meaning that are articulated to form a whole. The relationship is not just between the camera and the dancer as we can say, in a simplified manner, regarding video dance language. Just like that, the camera becomes choreographer and dancer: It is also responsible for the composition. But beyond that, in telematics the relationship is established by yet another mediation formed by dancer-camera-network-dancer, and that makes all the difference. This is done by a mediation made by encoding and decoding the agent in question, in this case, the dancer. The interest is not in the dancer's image, itself, as it would be in videodance. Rather, the image serves as captured computer data that can be processed in any kind of possible output by digital means. Thus, the signs of this relationship are not necessarily decoded as the dancer's own image, as described for the pictures processed in the sensitive area of Point of Presence 1.

My research in telematics in Brazil was made possible by a long history of creative processes in dance with technological mediation that began in the '90s;[5] in my experience with the language of video dance and artistic residence in the Environments Lab (2001), Ohio State University, participating in sessions of the ADaPT (Association of Dance and Performance Telematics), in which five US universities regularly met to test dance proposals for the Internet. The sessions in

which I participated as a dancer aimed (at the time) only to convey the dances from one location to the others, and consisted of 10-minute sessions of improvisation or choreography that each group presented over the network to remote partners from other institutions, with no access to the external public. Another example in which the network was used only to create simultaneity but no interaction was the Proyecto Paso (Step Project),[6] created by Spanish choreographer Salud López, of the collective en lugar de creación (in creation's place) in 2006. The idea was to discuss the Universal Declaration of Human Rights from point of view of three different countries, so in addition to our participation in Brazil, John Mitchell, a professor at Arizona State University, in the United States was also invited.[7] Each point of presence had its own dramaturgy and corporeal development, the relationship between the three countries was established only through graphic composition conceived and performed by Laura Hernández and Sergio Moreno (Fig.2). Thus as seen, the network can be utilized to meet different forms of composition. My option to work with the network seeking various forms of interaction comes from understanding it as a locus of exchange and sharing of data, revealing itself to be a specific type of mediation and therefore not only used to re-introduce the local configuration to a remote environment. It is the interaction based of code processing that differentiates this technology from conventional mass media.
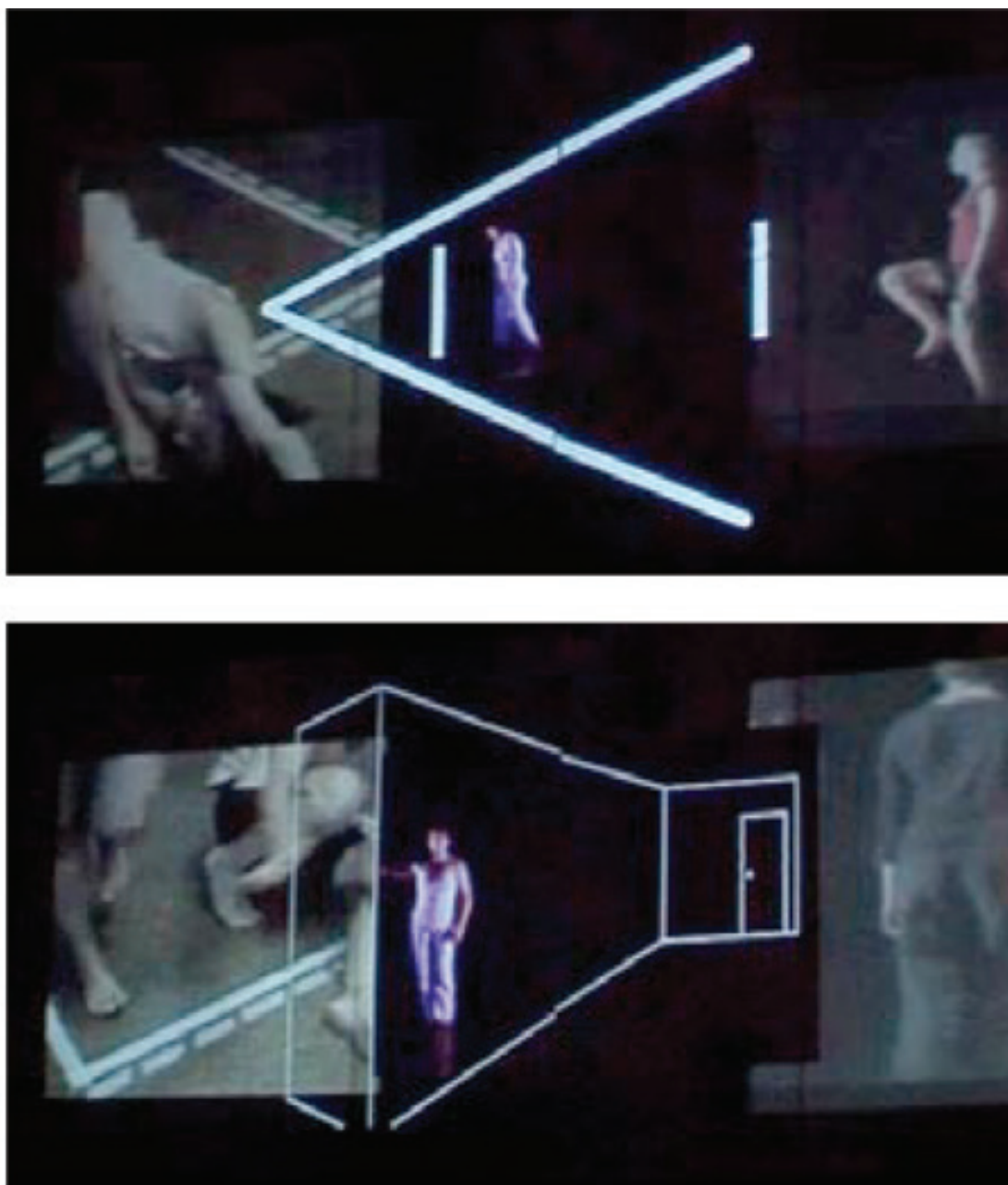
Figure 2. *Proyecto Paso* (2006).

The experience in the Environments Lab was important as a first living experience in that medium, while it demonstrated a potential for other paths distinct from the anterior proposal that used simultaneity and / or re-presentation in the United States and thereafter in Proyecto Paso and in its modified performance in 2007, Nukonén, paso ao Chile (Nukonén, Towards Chile). In addition, since the beginning of my research on mediation technology my objective was to incite our perception (the creator, the dancer, the observer). For example, in Corpo Aberto (Open Body, 2001)[8] the notion of perspective is "broken," raising questions about action and permanence, movable and immovable, horizontal and vertical, in and out, etc; or even before this, in the performance ... entremeios ... (...insertions..., 1998), when I danced inside a clear plastic bubble, three meters in diameter, in dialogue with the projection of images captured in real time by an installed micro camera inside the sphere - images that were pre-taped from the site of the presentation while still under construction and visualizations of avatars with 'whom' the choreography had been created. The configuration used in ... entremeios ... questioned the viewer's capacity to get in touch with that body, which, in all instances, would always be mediated: indeed, a condition of mediation that I understand to exist independent of technology. These examples serve to indicate my starting point for the creation of telematics. The ability of the dancer to dance with images from a remote partner via encoded information, processed in real time or another time was already inserted into the artistic proposition of those works. Telematics, understood as a mediation and exchange of information, became an opportunity to test other forms of access to the 'other' - other forms of interaction, a process differentiated from the conventional scenic environment designed to provoke discussion about perception. This has always been the focus of my research.

The title "versus" was chosen to signify a "relationship," and thus carries the sense of confrontation as well as interaction. Like a chessboard, players, dancers were standing at each point of presence to create relationships with their remote partner. Assuming the context of digital culture, it didn't interest us to just send the image of the dancers, but to present it through the potential of computational processing, the body transformed into code, and through mediation, given back as body, even with other non-anthropomorphic characteristics, but always perceived by the dancer as another subject and not just as computational information. It is through our perceptual apparatus that the relationship with digital apparatus is decoded, transformed, absorbed. This process of embodiment is possible because we are "selective processors of information" (Hansen, 2004). We are beings with great power to engage with non-biological systems (Clark, 2003) and telematics is a cognitive niche, full of cognitive artifacts (cameras, sensors, screens, etc.), that expand our minds and re-dimension our bodies, since they are responsible for the process of organizing our functional abilities in functional cognitive systems (Hutchins, 2008).[9] In this sense, the dancer

danced with this "re-dimensioned body" that could appear as covered with letters, filled with images of the world, or made gigantic, such as the interaction between a dancer and a huge remote hand displayed on the screen.

While in *VERSUS* we explored image processing, in *Por onde cruzam alamedas* we investigated the camera's relationship with the dancer, and realized that the use of various planes, as well as movement in diagonal lines, emphasized a deep and binding relationship between remote spaces. *Por onde cruzam alamedas* was a study realized between the Salão Nobre da Reitoria and the Teatro do Movimento, in the Escola de Dança da UFBA. In both points of presence we had dancers and DJs musicians looking for forms of remote interaction. Point of Presence 1 had pre-recorded images of the cast with which the dancers of the site interacted. These were positioned in the intermediate plane but in the very first plane in relation to the camera, forming what we called a "window" with the body that emphasized the "passage" from one point of presence to another, a fact that happened only as illusion, but which caused great visual and corporal impact (Fig 3). Unlike camera-dancer relationship in video dance, in telematics the dancer has to pay as close attention to this device as to the remote partner to whom he or she will reach out to in the other point of presence.

This understanding modifies corporeal action - the way of looking, focusing, positioning, etc. - since the body coupled to the cognitive artifacts within the field learn from the context and apprehend the properties of the remote interface, of a partner mediated by codes transmitted by the net. Thus a device becomes a cognitive artifact and, in this regard, we "dump" our cognition into the environment (embeddedness). Our day-to-day is full of cognitive niches that promote alterations and amplifications of our self, in our subjectivity, and in our sensorimotor condition - a dynamic that occurs not only in the artistic processes of telematics, but in life. It is precisely because of our experience in everyday digital culture that we are able and interested in developing performances of this nature.
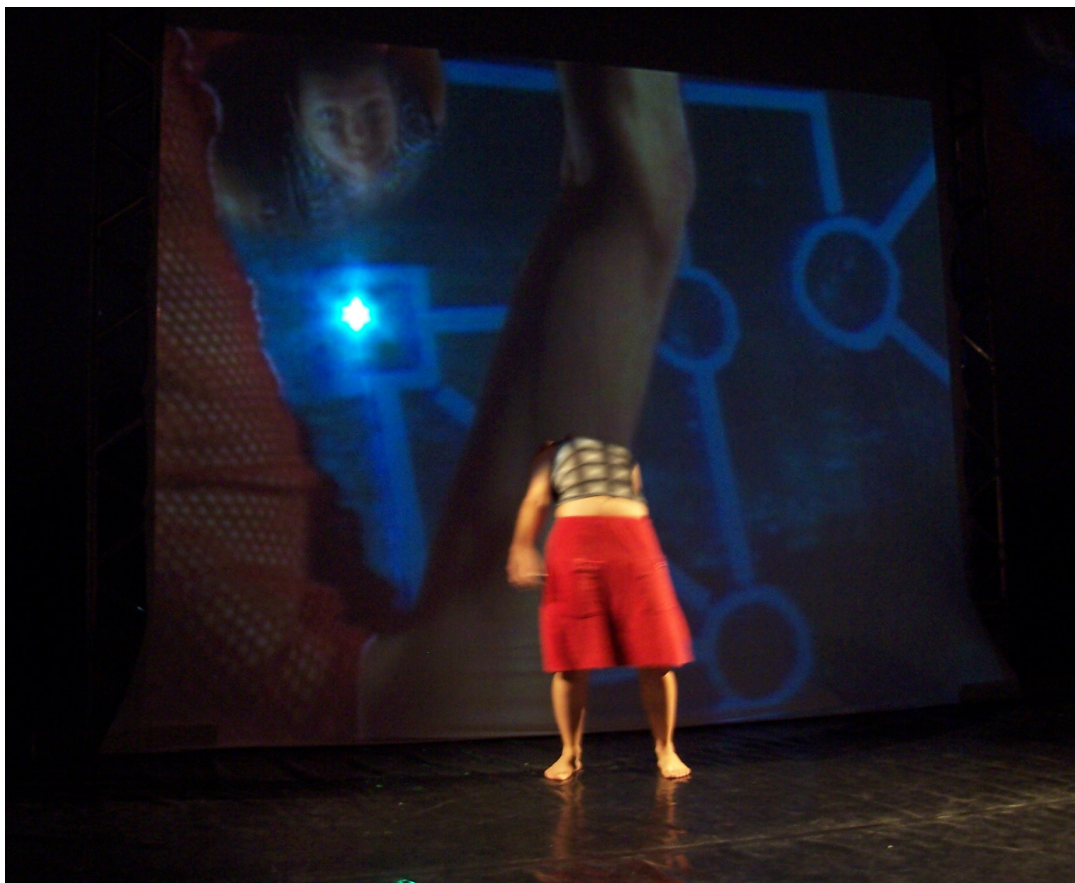
Figure 3. *Por onde Cruzam Alamedas* (2006). Performers:
Flavia Castagno, Hugo Leonardo, Maria Fernanda
Azevedo, Thaina Aquino

For the 2008 work *(In)TOQue* - whose title can be loosely translated as (In) Touch, since it plays with the act of communication by touch, both literal and virtual - performed with dancers in Salvador and Rio de Janeiro, musicians in São Paulo, and the Galatea robot in Natal, the focus of the research was the exploration of possible contacts that this mediated and distributed environment allowed. The conceptual approach of these art projects included the following question, as contained in the unpublished project notes: "Is it possible to touch that which we encounter only through its image, its sound, by its presence now another, but not physical?" The project proposal continues to state: "a meeting of different worlds, of organic bodies, imagetic bodies and mechatronic bodies, distant in geographic location, but close by virtue of mediation; different in nature but similar in proposition; absent in their physicalities, but present in intention." While in *VERSUS* we used the projection screen also to create silhouettes of bodies crossing the light of the projector causing these shadows to be mixed and confused with the images of other projected dancers, thus producing another type of layer, in *(In)TOQue* the exploitation of this technological device served to alter the spatial notion, causing an illusion of opening and closing just like the "windows" created in the work of 2006. The image was not limited to the projection screen, but rather used the elements of space itself, as well as of the body, as a support for receiving remote information. When the image of a dancer was projected onto the body of another dancer, the sense of touch was as much in the physical action as in the dramaturgy being created by the dialogue between the two overlapping people (Fig.4).
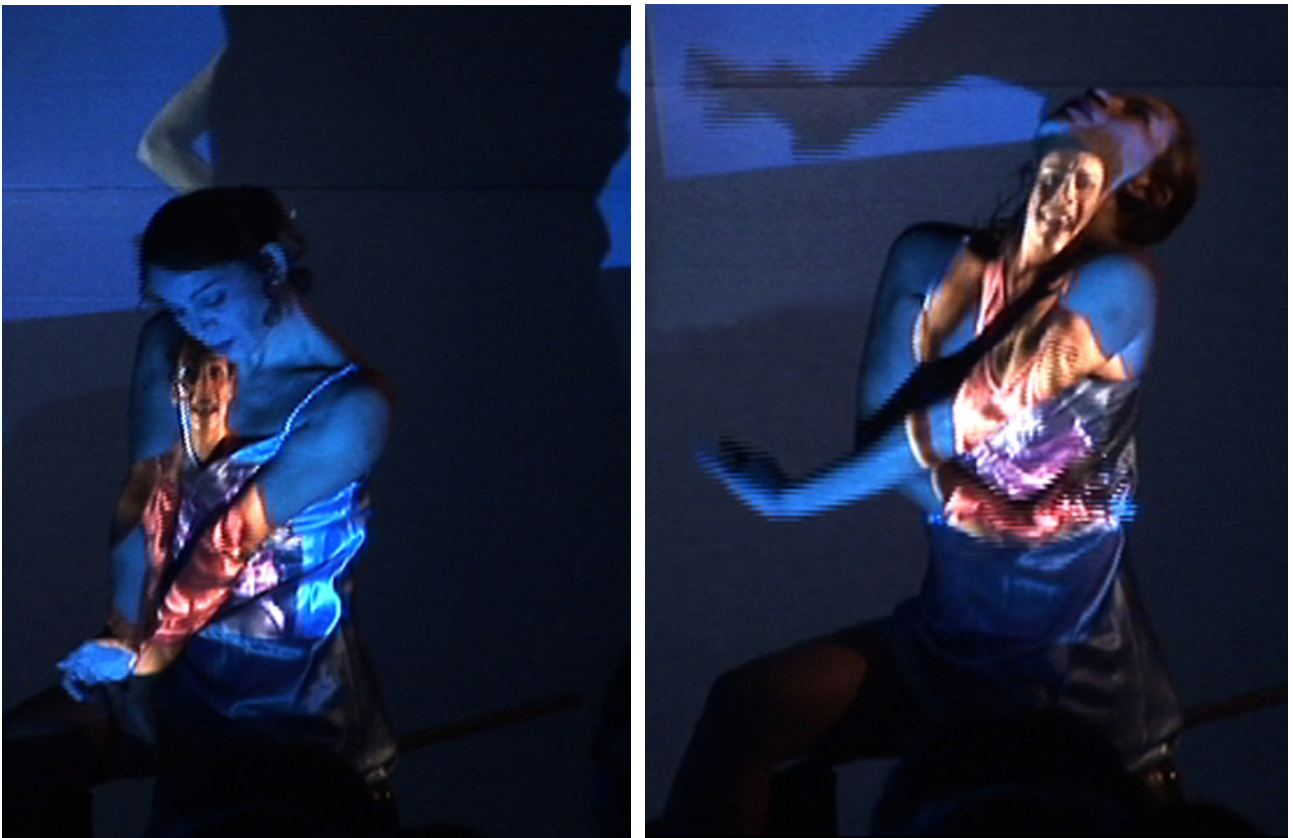
Figure 4. *(In)TOQue* (2008) Performers: Ivani Santana,
Verônica de Moraes

So in summary we can say that, in 2005, research emphasized image processing; in 2006, layered configuration; and, in 2008, the relationship the performance environment has with its elements, including the body. This last element being investigated, research returns to an important aspect: the body-environment understanding that must be understood and explored not only for conceptual reflection, but in terms of the very condition of the body in relation to objects and to the environment to which it belongs. It is in this sense is that we understand the concepts of "embodied" and "embeddedness" (Lakoff & Johnson, 1999) (Hansen, 2004).

It was necessary to create methodological strategies for the development of these works. Starting from the concept and function of the "storyboard" used in planning videographics, I realized that a score was needed that would serve as a guide to interrelate the dancers'-camera environment and the various layers proposed in telematics. That's because we are not interested only in transmission, but also in the relationship that can be established between these physical and virtual bodies in specific spatiotemporal configurations. However, different from that used in film, video art, or video dance, the storyboard for telematics had to be extended to inform not only the image features, but the location of each dancer, of the camera and the relationship with the screen in order to coordinate among all points of presence, and also to compose the images transmitted to the public via Internet (Fig.5). The creator, therefore, does not conceive the composition of one scene, but a network of ideas that are articulated between body and image possibilities that are processed from one point to another and to the Internet. This is one of many demands that differentiate this process of creating dance configurations in a physical space, be it for a theater or alternative location. Telematics mediation sparks other stimuli and demands for all stakeholders: choreographers, dancers, musicians, the audience and all the other artists involved.
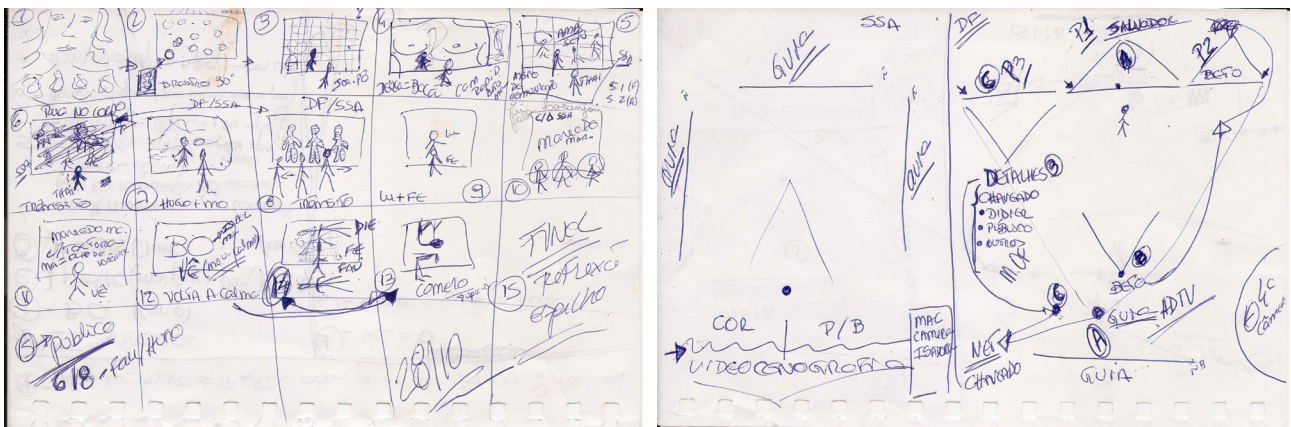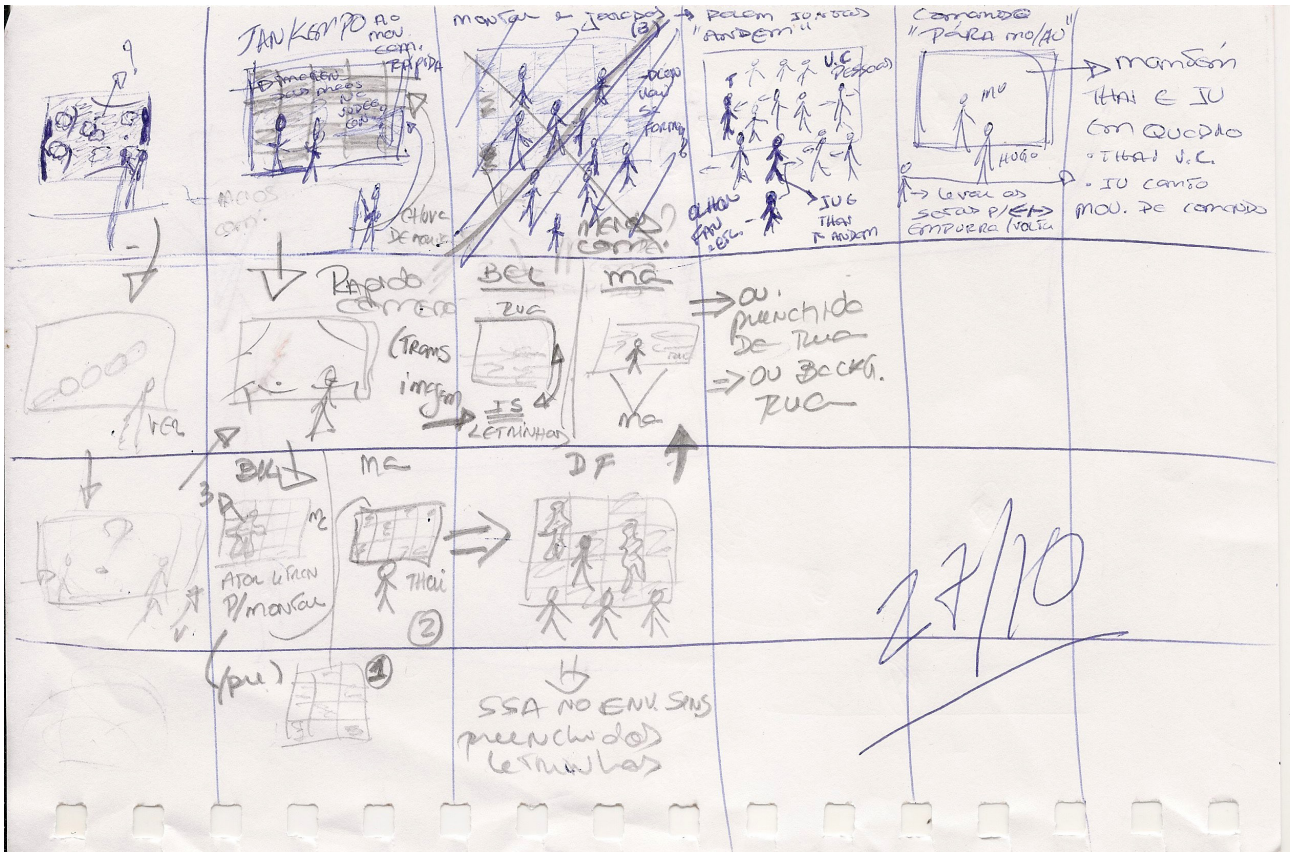
Figure 5. Storyboard for *VERSUS* (2005).

In the case of the performances discussed in this essay, all were created and realized by the members of the GP Poética, which guaranteed greater control of the construction process, the corporal objectives and imagery composition regarding the creative proposition, since acting in distributed systems means interacting with a dynamic and complex system, always so unpredictable. In work carried out since 2009, when we began a phase of knowledge transmission and development with other partners, this artistic and aesthetic control gained greater flexibility to meet the idiosyncrasies of each group involved.

My first works created in telematics have been crucial in understanding the aesthetics, technology and the creative processes involved in this field. Whereas engineers and technicians are concerned with resolving the issue of delay and *jitter*[10] that exist in the network, which can cause package loss resulting in a pixilated and fragmented image, for me, these are conditions of telematics mediation that should be seen as the very aesthetics of the medium, and therefore, should be explored and not denied or abolished. Obviously one must find ways to control these conditions to know how best to use them, but not necessarily to ban them. For the most part, engineers and technicians of computing and networking do not share that perspective and ampler desire for art that stimulates innovative paths and demands. However, it is through interdisciplinary that what is new emerges in the contemporary world.

Notes

1. Accessed through: http://liminalities.net/10-1/new-temporality.pdf
2. Accessed through: http://www.cocen.rei.unicamp.br/revistadigital/index.php/lume/article/view/143/142
3. All of the academic and artistic projects mentionned in this article, as well as the major part of the author's articles cited here, are available on her site: www.ivanisantana.net
4. A more detailed analysis of this work can be found in my book Dança na Cultura Digital, accessible through http://ivanisantana.net/wp-content/uploads/2013/04/Santana-I_DancaDigital2006.pdf.
5. An analysis of the history of dance with technological mediation can be found in my article, "De corpo presente na dança digital distribuída em rede. ARJ - Art Journal. V1, n2, 2014. Disponível em http://periodicos.ufrn.br/artresearchjournal/article/view/5370/4386.
6. http://saludlopez.net/proyectopaso.html
7. An article by John Mitchell about ADaPT projects and about Proyecto Paso can be found in both Portuguese and English, at Revista Eletrônica MAPA D2, volume 1, número 1, 2014. www.mapad2.ufba.br
8. *Corpo Aberto* was the creative result of my Masters thesis realized in the Programa de Comunicação e Semiótica/PUC SP, and published with the title *Corpo Aberto: Cunningham, dança e novas tecnologias*. São Paulo: FAPESP/EDUC. 2002.
9. These arguments are found in my article "Moist art as telematic dance: Connecting wet and dry bodies," in: T*echnoetic Arts: A Journal of Speculative Research*. Volume 13, Issue 1-2. 2015
10. Regarding the application of network technology for telematics art, please see the texts by Bezzera, Ciuffo et.al and Lacerda in this edition. All texts have English translation.

References

BORGES, Jorge Luis. *Ficções*. São Paulo: Globo, 2001.

CLARK, Andy. *Being there: putting brain, body, and world together again*. Cambridge, London: Bradford Book, MIT Press, 1997.

___. *Natural born-cyborg*. Oxford: Oxford University Press, 2003.

HANSEN, Mark. *New philosophy for new media*. Cambridge: The MIT Press, 2004.

LAKOFF, G. and M. JOHNSON, *Philosophy in the flesh: the embodied mind and its challenge to western thought*. New York: Basic Books. 1999

SANTANA, Ivani. "ConFigureções da dança na cultura digital: relatos sobre experimentações e reflexões da dança com mediação tecnológica". In: Cena, corpo e dramaturgia: entre tradição e contemporaneidade. Org. A.Pereira, M. Isaacsson, W.L.Torres. Rio de Janeiro: Pão e Rosas, 2012.

___. "O Corpo do Tempo: Dança Telemática". *In Ilinx. Revista do LUME. Núcleo Interdisciplinar de Pesquisas Teatrais* – UNICAMP. Vol. 2. 2012

___. "Networked Dance Performance: a new temporality". *Liminalities: a Journal of Performance Studies*, v. 10, n. 2, May 2014. Autora Convidada pelo Comite Cientifico pela apresentação no evento Remote Encounters, Cardiff, Reino Unido, 2013.

___. *Corpo aberto: Cunningham, dança e novas tecnologias*. São Paulo: FAPESP/EDUC, 2002

About the author

Ivani Santana holds a Masters and PhD from the Program of Communication and Semiotics at PUC/SP (São Paulo) and a Post-Doctorate from the Sonic Arts Research Center (United Kingdom, 2012/13) with research done on the sonorous relationship of the body in telematics environments, entitled "Dramaturgias do Corpo Tele-sonoro" (Dramaturgy of the Tele-sonorous Body"). She began her research on dance with technological mediation in the early '90s. Currently, she is a Professor at the Milton Santos Institute of Humanities, Arts and Sciences at the Federal University of Bahia (Artes e Tecnologias Contemporâneas) and in the Graduate Program in Scenic Arts and serves as Coordinator for the Grupo de Pesquisa Poéticas Tecnológicas: corpoaudiovisual. A pioneer in research about telematics dance in advanced telecommunication networks in Brazil, Santana is also author of the books Corpo Aberto: Cunningham, dança e novas tecnologias (SP:FAPESP/EDUC, 2002) and Dança na Cultura Digital (BA:FAPESB/EDUFBA,2006) and organizer of the collected entries in "Estados da Dança: entrevistas, relatos e ensaios de criadores contemporâneos" (Salvador: GIPE-Cit/PPGAC/UFBA, 2006). She holds a 1D Research Grant in Productivity from the CNPq. <www.poeticastecnologicas.com.br>; <www.ivanisantana.net>