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‘Blurring the Boundaries: interactions between choreography, dance and new media technologies’

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In early 2004, I received an invitation from Leire Llano to contribute an essay “related with dance and new technologies” to an online Spanish journal she was setting up. I proposed to develop a presentation I gave in April at METU (university) in Ankara into an article for her and she agreed. The article was published soon after in April 2004 as: “Blurring Boundaries/ a theory of the artwork” [parts I and II]. in: COMPAS: virtual dance magazine bcn.¹

Three years later, in April 2007, I was invited to take part in a lecture series organised by Christa Sommerer and Laurent Mignonneau, directors of the Interface Culture Program at the University of Art and Design Linz. In October 2007, I was invited by Dorothée Gestrich to develop my lecture for a publication they were preparing out of that series along one of two lines, “on Interactive Media Technologies and/or The Choreographic Resource: Software for Dancers”.² As I had already proposed the piece on ‘choreographic resources’ to Performance Research, [see No. 27], I suggested to rework the “Blurring the Boundaries” for their publication, and they agreed.

¹ <http://www.compasbcn.com/> (accessed 7 May 2010).

² Email to the author, 3 Oct 2007.

**BLURRING THE BOUNDARIES -
INTERACTIONS BETWEEN CHOREOGRAPHY, DANCE
AND NEW MEDIA TECHNOLOGIES**

SCOTT DELAHUNTA

The connections between dance and technologies can be looked at from five fundamental perspectives:

- **Historic:** Separate but often overlapping contemporary arts practices; modern/ post-modern dance having evolved alongside the electronic and media arts
- **Creative:** An artistic tool in particular in the form of the digital computer; technology integrated into a variety of genres such as music, film, graphic arts, etc. and to an increasing extent in the creation of dance
- **Inter-disciplinary:** A field that encourages collaborations between programmers, media and performing artists to which radically different skills and approaches are brought
- **Aesthetic:** adding to the lexicon of contemporary arts practice concepts such as ›real-time‹ and ›interactivity‹ which link technologies and performance
- **Symptomatic:** As rapid societal changes, information and communication technologies provoke questions and interactions that may be reflected in performing arts practices.

In this paper, I draw on only some of these connections: primarily on the notions of creative/artistic tools and interdisciplinary practices to examine what might constitute an artwork in which both dance and technology may feature. Using examples of several practicing artists, I hope to elucidate a diverse field of arts practice defined neither by adherence to tradition/convention nor its opposite avantgarde/ experimental, but more by the capacity for switching between modes of practice and artistic media/ materials. This capacity is one that I will refer to as *blurring boundaries*.

The Artwork imagining a set of open-ended relationships

To illustrate how artworks that involve dance and technologies might occupy various positions within this concept of blurring boundaries I will use some of the following works of artists Klaus Obermaier, Mark Coniglio, N&N Corsino, Rosemary Lee/ Nic Sandiland, Prue Lang, Scott Snibbe, Marie Sester and Blast Theory.

Body Scenography: Klaus Obermaier transforms our perceptions through media performance

The performing arts have traditionally relied on a clear separation between the stage and the spectator; where the performers remain on one side of the proscenium arch (or the idea of this arch) and the audience on the other. The integration of media technologies in the framework of this convention is dependent at least partly on the knowledge of how projections and lighting work together on stage scenographically. The work of Vienna based director/composer Klaus Obermaier provides us with a good example of this.¹ Obermaier has developed and produced two unique dance works that have used the dancer's body as the primary video projection surface. The first of these, *D.A.V.E.*, which premiered in 2000, was created with collaborator/dancer Chris Haring and has toured in over fifteen countries. However, despite many audience members being convinced they were seeing a ›interactive‹ media dance piece, the production of *D.A.V.E.* involved no such technology. Obermaier intended only that the relationship between body and projected image would successfully drive the linear narrative of the piece on stage. The timing and location of the projections on the stage is all pre-choreographed, so for the visual effects of the ›moving body projection‹ to work, Haring has to be able to perform the same movements at the same place on stage every performance.

Following the success of *D.A.V.E.*, Obermaier and Haring created another piece using body projection titled *Vivisector*. Obermaier's aim this time was to generate a more abstract perception of the body in the mind of the audience, so *Vivisector* uses fewer literal images projected on the body, often using the projector only as a light source.

1 Klaus Obermaier website: <http://www.exile.at/> (April 14, 2008).

Figure 1: Klaus Obermaier: *D.A.V.E.* (2000).



Credit: Klaus Obermaier.

As with *D.A.V.E.*, the success of the piece relies on the performers/dancers being able to be in the correct place on the stage at the right time to become canvasses for the projections. *Vivisector* also takes the 'moving body projection' concept further by working simultaneously with four dancers on stage rather than one. And, as with *D.A.V.E.*, the aim of the work is not to emphasize the wonders of technology but to foreground the body in a media landscape, and, in *Vivisector*, to reflect something fundamental about the nature of perception.

For the next work in this series of moving body projection projects, Obermaier collaborates with technology specialists of the Ars Electronica Futurelab to develop a piece for the stage that uses sophisticated motion tracking and real time video synthesis and projection technologies to enable the performers to move freely about the stage while still serving as the surface for the image. The result of this collaboration premiered at the Ars Electronica Festival in September 2005.²

Isadora Software: Mark Coniglio puts interactive media creation in the hands of the dancer

Partly due to the technical challenges of the project, partly because of his artistic approach, Obermaier's interactive project for the stage relies on a successful collaboration between specialists in specific domains. Until

² Obermaier's new work is partially supported by DAMPF, a European joint performing arts/ technologies research project: <http://dampf.v2.nl> (April 14, 2008).

recently, dance and technology projects nearly always required collaboration between dance and new media artists/computer scientists partly because the software for complicated interaction and real time digital media processing could take a long time to learn to use. Now that the standard more affordable desktop and even portable computer is powerful enough to be integrated as an artistic tool into a variety of arts genres there are many more choices of creative software available, some of which has been designed for use by the non-specialist. The most important addition to this area is the contribution of performance and media artist/ programmer Mark Coniglio of a non-specialist software programmed specifically for the dance and theater maker named *Isadora*.

Coniglio is co-director with choreographer Dawn Stoppiello of the multi-media performance company *Troika Ranch*, based now in New York City.³ Founded in 1993, *Troika Ranch* integrates interactive real time systems into their performance work, and Coniglio has written most of the software to support this. Some years ago, he began to develop a program that would combine the functionality of several existing softwares he was using and be simple enough for the non-programmer to work with creatively after only the briefest of introductions. The result is the software program *Isadora* (after the modern dance pioneer).⁴ While it was made and priced with the performing artist in mind, *Isadora* is so well designed and multifunctional it is used by many artists working in interactive installation and performance, sound art, mixed media and club culture.

Figure 2: Isadora used in Troika Ranch's »Future of Memory« performance, performer Sandra Tillet.



Photo Credit: Richard Termine.

3 Troika Ranch's website: <http://www.troikaranch.org/> (April 14, 2008).

4 Download a trial version of *Isadora* from <http://www.troikatronix.com/> (April 14, 2008).

Isadora features the module and patch cord interface that would be familiar to users of more difficult to learn software (such as *Max/MSP*)⁵, but Coniglio has developed sophisticated labeling that explains clearly through text and graphics what each module is doing. This makes it relatively easy for the non-software specialist to quickly and intuitively integrate digital media into his or her creative process. It is this ease with which *Isadora* makes it possible for the choreographer or theater maker to independently make edits and changes to the media in the context of the rehearsal process that makes this software a unique and notable addition to the field of creative software tools for the performing arts. By breaking down distinctions based on expertise and through its increasing use by artists working in different genres, *Isadora* contributes to blurring the boundaries of what constitutes the making of an artwork.⁶

**Choreographers making installations
N&N Corsino choreograph for 3-D computer
environments; Rosemary Lee and Nic Sandiland compel
viewers to dance; and Prue Lang transforms the space/
time of choreography via other means**

Artworks involving dance and technologies do not always manifest in performances for the stage, but may involve the audience as participants or performers. These projects have tended until recently to be created by those specializing in interactive media, but today one can point towards choreographers who are blurring the boundaries of their disciplines by making non-stage based, installation works.

Combining 3-D motion capture, computer gaming environments and choreography, *Topologies L'Instant* (2002) is an installation work by French choreographers Norbert and Nicole Corsino.⁷ In the piece, the viewer/participant navigates freely throughout the five levels of a 3-D computer graphics environment using a standard handheld game controller to accelerate forward or backwards and turn left or right. The

5 Max/ MSP is popular but complicated to learn software for use in interactive art making: <http://www.cycling74.com/> (April 14, 2008).

6 For a longer online interview with Mark Coniglio about *Isadora* and artists using this software see: <http://huizen.dds.nl/~sdela/sfd/isadora.html> (April 14, 2008).

7 N&N Corsino have done some of their past research in association with CICV (Centre International de Création Vidéo – <http://www.cicv.fr>). (April 14, 2008).

space is comprised of largely flat, desertlike landscapes where one encounters surreal sculptured video walls, modernist semi-transparent multi-level buildings and strange empty structures. Scattered amongst these are dancing figures animated by movement sequences recorded using 3-D motion capture. One can approach these figures from any direction and pause or slow their movement down. This world is there to explore in one's own time from any perspective. It is a significant achievement and a sign of things to come.⁸

Recently commissioned by the Arts Council England through the innovative Capture series supporting choreographers to work in the field of screen based and interactive media, choreographer Rosemary Lee and electronic and media artists Nic Sandiland have created and premiered a new interactive installation based artwork titled *Remote Dancing* (London premiere, February 2004). As described in the brochure the piece is »A video installation where the interaction of the viewer and on-screen dancer becomes an intimate pas de deux. Remote Dancing is an ingeniously simple concept. Rich in possibilities it uses new technology and allows each viewer to experience their own compelling and unique dancing partnership.«

The installation is built around a long corridor that uses ultrasonic sensors to determine the participant's exact distance from the video projection at the corridor's end and uses this information with the *Isadora* software to control the position or key frame of the video image. Imagine you are the viewer/participant: the image on the screen is of a single person dancing towards you as you walk (or dance yourself) down the corridor. When you move all the way to the rear of the corridor it triggers the video to play back the image of another person dancing towards you on the screen. As can be seen in the following picture taken from the publicity for the installation, the dancers are from different generations and if you stay in the corridor long enough you will see all six. As you move forward and back you can slow, speed up or pause the dancers in the middle of a jump or leap. Their exuberant movement encourages an unusually strong empathic connection to the projected image that elicits sympathetic movements from the viewer/participant that begs the question where lies the choreography in this work – with the dancers on the screen or the »dancer« in the corridor?

The following artwork from emerging choreographer Prue Lang, a performer with Williams Forsythe's Ballet Frankfurt, does not use

8 For more information about motion capture technologies used with dance projects see some of these reports on line: <http://huizen.dds.nl/~sdela/mcrl/>; <http://www.dartington.ac.uk/staff/sdelahunta/uci/rivrep.html>; <http://huizen.dds.nl/~sdela/transdance/report/> (April 14, 2008).

interactive technology, but is worth mentioning because of its contribution to the growing phenomenon of dance artists making installation based work. Lang's Infinite Temporal Series is referred to as »a choreographic installation [...] inspired by the writing of Jorge Luis Borges, the work explores performance via experimental narrative structures of simultaneous temporalities«. The set is described as a self-contained performance space consisting of a row of five adjacent rooms each with its own dancers and with a bench for audience seating. From this bench the audience members (maximum 30) are not only sitting in a very close relationship to the performers in their room, they can also see through windows cut into each of the walls to the subsequent rooms. »Spectators can move freely from room to room during the performance to construct their own individual and multi-perspectival experience of the work.«⁹

Media Artists making choreographies: Marie Sester and Scott Snibbe design and merge politics, play and movement

In the non stage-based work mentioned above dance artists explore the freedom to move between roles and genres in the search for the appropriate space/time contexts to situate artworks. But when the relations between these different components of the artwork are mutable then why not reconsider not only what might comprise the dance element of the work (as was the case with *Remote Dancing* mentioned above), but also who might take up the role of the choreographer.

Marie Sester and Scott Snibbe are interdisciplinary artists whose work features not in performing arts contexts, but in interactive media art events such as the annual Ars Electronica festival in Linz, Austria. Neither would refer to themselves necessarily as choreographers, and yet both of the following artworks (which were exhibited at the Ars Festival September 2003) elicit playful and physical responses from those who take part in them.

Marie Sester's *Access* (2003) is described as »a public art installation that applies web, computer, sound and lighting technologies in which web users track individuals in public spaces with a unique robotic spotlight and acoustic beam system. The robotic spotlight automatically

9 Ibid.

follows the tracked individuals while the acoustic beam projects audio that only they can hear.¹⁰

Figure 3: Marie Sester: Access, Ars Electronica Festival 2003.



Photo: Marie Sester.

Sester's intention with this work is partly to explore and raise awareness of the politics and implications of surveillance systems through connecting the actions of an anonymous group of web users to a public unaware they are being seen on line. These aims can be understood by taking the work as a whole into consideration. However, much of what takes place only in the focus of the spotlight is spontaneously playful and filled with motion. The spotlight seemingly locks onto someone in the public space, making him or her the center of attention (and the performer). The beam can be difficult to ›escape‹ which inspires all manner of energetic and evasive movements. If there is no one on line, the system reverts to a default automatic system. In both circumstances, it is possible to ›fool‹ the system by moving very close to someone else in the space making the beam jump to them. From this playfulness with the moving beam emerges an unpredictable but conditional choreography partly authored by the machine and/or by the participants on the web and partly by the participants in the public space.

Scott Snibbe's *Deep Walls* (2003) installation similarly inspires playfulness from the participants and this engagement is Snibbe's

¹⁰ Marie Sester: website: <http://www.sester.net/> (April 14, 2008).

primary aim. He describes his work as consisting »primarily of electronic media installations that directly engage the body of the viewer in a reactive system.« *Deep Walls* is based on a simple but effective concept. It involves the projection of a single frame within which there are sixteen smaller frames. As the viewer moves in front of the screen his or her moving shadow silhouette is recorded and played back in one of these sixteen smaller frames after the viewer moves out from in front of the screen. One after another, each of the sixteen smaller frames is filled with shadow recordings continuously looping until all the small frames are filled, at which point the first to have been filled is replaced and a new cycle begins.

It is possible either alone or with others to enter this installation space and build up a complex choreography that will exist in the relations between the sixteen frames. This can be done to varying degrees by chance; but is likely to evolve into a design choice as one is quickly inspired to fill the small frames with a chosen gesture or movement to interact with those that have already been left. It is possible to watch movements as they are being created or enter at some point when no one is in the space when the recordings of the last group of spontaneous dance makers are still looping in the frames.

Both of these artworks blur the boundaries and beg the question what constitutes choreography and who is the performer and who is the dance maker.

Choreographing the city: Blast Theory challenge and then raise our expectations for artworks involving choreography and new technology

It would be negligent to write about artworks that blur boundaries of practices involving performing arts (dance/theater), media artists and computer programmers and not mention the work of the devised theatre company *Blast Theory*. Based in the United Kingdom, Blast Theory has been stretching the definitions of theater and choreography for over a decade. In 1997, they had the initial meeting that lead to a long-term collaborative relationship with the *Mixed Reality Lab* (MRL) at the University of Nottingham out of which several successful artworks have emerged. The first was *Desert Rain*, which premiered in Nottingham in November 1999. This work is often described as a combination of

installation, theater and computer game and was created for an audience of six people at a time.¹¹

But it is the collaboration after *Desert Rain* between *Blast Theory* and the *MRL* involving mobile and wireless technologies that I wish to mention briefly here in the context of this article. *Can You See Me Now?* is a game/performance that happens simultaneously online and on the streets. First played/performed in the city of Sheffield, UK in December 2001, the game involved members of the *Blast Theory* company on the streets of Sheffield using wireless mobile computers equipped with the global positioning system to pursue on line players who were visible on the virtual map of Sheffield shared by both groups. The objective was for the online players to evade the *Blast Theory* runners for as long as possible. The runners on the ground communicated and shared pursuit strategies with each other using walkie talkies, and this audio stream was available to the online players.

A more detailed description of the work can be found on the Equator website listed in the references, but what is important to consider in the context of this article is the choreography in the city that emerges during a game/performance of *Can You See Me Now?*, one in which both virtual and real participants flow together in patterns of movement constituted by a communication system involving audience, viewers, participants, performers and players.¹²

In this paper, I have examined some examples of artworks in which both dance and technology feature and by implication help to constitute these works now and in the future. In some of these examples, we observe that interactive and media technologies suggest spaces and times that do not conform to the standards and conventions of the stage, contributing to a shift in relations between maker, audience and performer. Now what might be added to this field of blurring is the freedom for the choreographer or media artist to conceive of themselves as makers of and within new realms (sites, spaces and models) rather than solely specialists within a particular domain.

11 You can easily find materials about this work online; in addition to Blast Theory's own site (<http://www.blasttheory.co.uk/>) I recommend the following links: DEAF discussion notes: <http://huizen.dds.nl/~sdela/dr/>; eRENA report site: <http://www.nada.kth.se/arena/desert.html>; and deliverable: <http://www.nada.kth.se/arena/doc/aD7b3.html> (April 14, 08).

12 »Can You See Me Now« archive website for the first staging of the work in Sheffield in December 2001: <http://www.canyouseemenow.co.uk/>; Equator website with reports and documentation: <http://www.equator.ac.uk/index.php/articles/c62> (December, 2007).

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