Independent Dance Research Seminar

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2004a

Compositional Techniques for Live Dance in 'Moving' Digital Scenography: ongoing research

This paper was presented as part of an MA in Collaborative Arts at University College Chichester, UK on 17th March 2004

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1 Introduction

1.1 al'Ka-mie

Brian Curson and I are al'Ka-mie and we are collaborating on a practical research project into compositional approaches for dance; live onstage, within state of the art digital virtual-environments[1] (VEs).

Our VEs can fill the entire stage forming an immersive experience for the viewer and as these VEs are navigated through they also form a moving film-like environment for the performer. According to Kozel "... virtual reality can be seen as using computer technology to extend the inner space of a person outwards" (p 37. 1994). Brian and I hope that by blending virtual environments, which can be seen as a form of virtual reality, with cinema techniques, and theatre, that our artwork can capture a character's diegetic[2] inner worlds.

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[1] Virtual environment will be hereafter abbreviated to VE and refers to our technological set-up of projected digitally created scenery, in front of which the dancer performs. Virtual Reality will likewise be abbreviated to VR.

[2] The diegetic world is the fictional world of the character in the performance.

The Research Aims

" The notion of scenography dictates that all visual elements of a production should work together with the performance concept towards a cohesive whole. Often in performances where the body shares the performance space with a projected image visual conflicts begin to appear. My focus is confused between wanting to look at the projection but not wanting to miss the live performance." (Shelton, 2001, p14.)

In our past productions our VEs have often overwhelmed the dancer.

Our research aims to:

- **Investigate compositional techniques that allow dancers to appear to move within a diegetic world depicted by the VE, and whereby both dancers and VEs are 'in compositional balance' with one another,**
- **Look for techniques where the audience is encouraged to suspend disbelief in the performance, that is, become immersed in the story.**

1.3   Theory: *Presence & Nodes* and *Rhizomes*

Our initial intention was to research through practice, itemise techniques, and their perceived results, of how the spatial and temporal aspects of a dancer's movement could relate to the spatial and temporal aspects of the movement of the VE[3]. We were originally seeking a series of defined techniques similar to that of early cinema (Bordwell, 1985). However, our experiments have led us to abandon a reductionist linear approach in favour of the rhizomic structures advocated by Deleuze and Guattari, (1987, Kennedy 2000).

In looking to frame our theoretical investigation of VE, we initially turned to VR and cinema theory. Ijsselsteijn working in the VR field argued that: "The history of cinema and VR reflects our ongoing aspiration to create a total and complete representation of reality ... as we move towards increasingly realistic media, each development in visual media can be viewed as a gradual buildup of perceptual cues that simulate natural perception and enhance the experience of presence" (2003, p20-21.) Many current researchers in the Virtual Reality (VR) field are investigating this sense of *presence* as a baseline to measure how 'successful' a VR experience is. We opted for investigating *presence* as a process to help us understand what might constitute a 'successful' composition where dancer and VE are in balance. Specifically we began looking for: the dancer being perceived as *present* within our VE and the viewer feeling *present* in the diegetic world[4].

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[3] The movement of the VE refers to the seeming navigation through a virtual world model as projected on a screen. It does not refer to movement of the projected image around the real environment.

[4] We use presence to define a 'successful' composition, later I interchange this for a composition, which 'worked' for Brian or I specifically on both levels of perceiving the dancer as *present* in a VE and feeling immersed or *present* in the diegetic world.

What is *presence*?

VR researchers agree there are different forms of *presence,* i.e. social, physical and co-presence *(*Gaggioli et al. 2003, Ijsselsteijn and Riva, 2003). In physical presence the user feels like they are actually physically present with in the virtual setting, when of course they are not. This is partly applicable to an audience watching a performer within our VEs. However the movement of the VE can also have a distinctive cinematic quality, which may draw the audience into identification with specific characters or define the audience relationship to a narrative. In this form of presence, the audience has an engagement with the scene that is more than perceiving that they exist within it. They may be present within a character's psyche.

Our relationship to cinema has evolved over time. Ijsselsteijn notes:

> "From anecdotal evidence accumulating throughout
> media history, it becomes clear that people's responses
> to media are not a linear product of the extent of
> sensory information that the medium provides, but are
> very much shaped by people's experiences with and
> expectations toward media." (2003, p22).

Audiences now, are so familiar with camera paths and complex editing in cinema, video, and TV that they easily read, realistically impossible navigation paths, as plausible from their voyeuristic position.

Our experience of cinema is not just through visual perception and its related schemata but a whole body experience as Kennedy discussing the filmic experience within a Deleuzian framework suggests. She notes: "I argue that the visual engagement is but a pathway to other synaesthetic experiences such as tactility, or hapticity, and proprioceptivity, for example ... The visual experience of the cinematic needs to be thought of as an 'experience' as a material capture, as synaesthetic experience in sensation, not merely as representation." (Kennedy, 2000, p28). She further argues that this whole body sensation of the cinema operates through a non-linear dynamic perception system that can stimulate ideas (not necessarily verbal) and take us into a 'fibrous web of directions' (Deleuzian rhizomes). This web can be seen as a dynamic system, which should be understood in terms of relationships rather than component parts.

We believe that by moving a VE around a dancer we are likely to engender a heightened whole body experience in the viewer, similar to that of cinema. This in turn should enhance the viewer's sense of presence in the VE and willingness to place the dancer as *present* within the VE. In the following sections, using Kennedy and Deleuze's ideas of the rhizome, we discuss how our results represent a web of relationships of the elements involved, where the 'nodes' represent experiments, which 'worked', i.e. both dancer and viewer are *present* in the experience.

2   <u>Methods</u>

The practical research is conducted by Brian Curson and myself; see Stuart (2003) for our basic methodology. All of our practical research is videoed. A journal of the 'experiments'[5] is kept where the variables involved in each improvisation are noted, such as costume, and music choice, as well as the experimental theme of that improvisation. As yet analysis of our work has been based on Brian or I intuitively feeling that a certain result has been attained, for example in feeling that a certain virtual camera movement is likely to immerse and engage the viewer[6]; or that what we have witnessed has an artistic integrity and resonates with our sense of aesthetics.

2.1   <u>The Set-up</u>

Our investigation into combining live dance and VEs requires a full stage set-up (see Stuart, 2003). The variations since our last seminar paper are as follows:

- A powerful PC computer rather than a laptop,

- 2 free standing screens,

- Two joysticks instead of one to control the VE navigation[7],

- More sophisticated joystick transformations for 3D navigation including ability of staccato movement,

- And we can cut between several VE perspectives of a model.

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[5] From hereon I will refer to each improvisation dance scene with its own unique set of variables as an 'experiment', and sequences of movement within that experiment which are to be singled out for discussion as improvisation or dance 'statements'.

[6] From hereon when I use the term 'viewer' I refer to a perspective obtained solely from either Brian or my external view of an experiment.

[7] I will refer to the navigation through a VE as VE choreography or VE movement.

2.2   <u>The Current Experiments</u>

Our previous research (see Stuart 2003) concentrated on simple, primarily spatial relationships between VE choreography and dancer's movement. Since December 2003 our investigations have become more sophisticated as we build on the knowledge we are gaining. In recent experiments we have:

- pursued a deeper understanding of how music affects the perceived relationship between VE and dancer

- explored beyond the expected by concentrating on The Stairs model (this model was chosen because of its simple structure, black background, copious lines of perspective, and potential for narrative and metaphoric subtext);

- experimented with sympathetic and counter camera movement[8].

- played with alternating both physical and virtual choreography between free and structured improvisation

- begun to focus on a style of gestural quirky movement, which does not necessarily flow smoothly in transmission between movement statements;

- recreated successful scenes in order to understand why they 'worked' for us.

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[8] Virtual-camera sympathetic movement we here define as navigation of the camera through the model such that the camera follows the dancer's spatial direction of movement (the VE model will appear to move in the opposite direction to the dancer, but the viewer will perceive themselves as following the dancer's movements). Virtual-camera counter movement is where the camera navigates in the opposite spatial direction to that of the dancer's movement (the VE model will appear to follow the dancer and the viewer will perceive themselves as drawing away from the dancer).

3   Results

3.1   Comparing Models Music Costumes Movement and Presence

In reviewing our practical research we noted that if the viewer was immersed or felt *present* within the artistic experiment, then the dancer was also perceived as present in the VE. Of 30 hours of improvisation there were about 20 (3-5 minute) scenes, when the whole experiment 'worked', that is, the scene felt immersive to a viewer, and the dancer appeared to be *present* within a VE.   In these experiments the VE model, music, movement of dancer and VE, costume all contributed toward depicting a narrative or story. This narrative was sometimes an obvious literal relationship of dancer to image and at other times a subtle emotive felt story. Other experiments had visual moments or sections of dance statement, which resonated with one of us, but the whole experiment did not 'work' and we believe was unlikely to, beyond an elemental part of it. These experiments were useful in that they often demonstrated striking relationships between dancer and VE, but did not immerse the viewer fully, because not all elements of the scene were sympathetic to each other. For example, either the music was not sympathetic to the scene or the model was not appropriate to the movement. Generally, if a viewer had to struggle with part of the scene to fit it into a complete whole, then the dancer was not felt as inhabiting the VE. A thorough analysis of these scenes has yet to be undertaken.

The experiments that 'worked', generally involved free improvisation. However, the experiments with structured improvisation allowed us to intuitively learn relationships of movement and image between VE and dance, which we could creatively draw upon in the moment of improvisation (Claxton, 1997).

3.2   The Stairs

In concentrating on one model, The Stairs, we discovered many flavours of the model that we could pursue to draw out a metaphoric narrative of person or body in their own inner world. This model was more robust to the types of music, costume, VE movement and dancer's movement that could 'work' with it, compared to other modes we used. However, The Stairs still adhered significantly to 'working' best when the combination of variables used all supported a unified story. This meant that for example, while black and white leotards both worked with this model to complement its b&w nature, black leotards could not be necessarily substituted for white in an experiment where white was successful. Playing with The Stairs showed us how movement relationships between dancer and VE obtained through improvisation could be quite subtle and yet very powerfully immersive to a viewer, e.g. the VE movement reflecting the dancer's flick of a hand or turn of the head. As our research progresses, we have been increasingly obtaining these subtle relationships through free improvisation by intuitively sensing each other's movement (dance or VE). It is doubtful that we could create these exquisite nuances of relationship from preconceived choreographic structures.

3.3   Choosing and Recreating Two 'Scenes'

Currently we are recreating two experiments that we believe have most fully incorporated the dancer as *present* within the VEs and also immersed the viewer. It is proving extremely difficult to recreate the original VE choreography. Losing the subtleties in relationship can mean a loss of *presence* of the dancer and the emotive power of the scene may diminish. However, through this process, we are learning much concerning the form and quality of the subtle improvised relationships between VE and dance.

3.4   Cutting between perspectives

We have only just begun to incorporate cutting between different perspectives in a VE model. This technique is proving a support for quirky gestural movement, which changes quality sharply between movement statements. It also allows for the dancer to exit and enter more easily and can influence the play of time in a scene.

4 <u>Discussion</u>

4.1 <u>*Presence & Nodes* and *Rhizomes*</u>

"the study of presence has an intrinsic heuristic value because it could shed light on conscious processes" (Gaggioli et al. 2003 p2)

Our research is not directly concerned with investigating what 'to be present' means, rather through using *presence* as a defining character of whether a dancer is seen as inhabiting a VE we are gaining insight into a process of creativity and thought. I believe that, the wide variety of product we created demonstrated that many unexpected combinations of VE, dance, music, costume and theme could be artistically successful ('work'), but they 'worked' as an integrated whole. The experiments could not be graduated from 'works' to definitely does not 'work'; rather there was a 'node' and 'rhizome' nature of our artistic product (Deleuze and Guattari, 1987). The 'node' represented the experiments where whole elements came together and fitted holistically and 'worked' with the characteristic of *presence*. The many experiments that did not 'work' could be thought of as lying on interconnecting network of lines between nodes (a Deleuzian rhizomic network). These could be related to Deleuze's 'Any space whatsoevers', which represent areas of transition (see also Bell 1997).

A Deleuzian network avoids the use of dichotomies, or linear gradients between opposites and a consequent Cartesian system of thought (Masumi, 1987). This fitted with our results as we realised we could not simply play

with Space and Time and dissect them out, and look for reductionist views of what 'works'. For example, a simple answer was not apparent when choosing any individual experiment which did not 'work', and asking the question:' what would have to change to make it 'work'?

Simply put we can see our work as involving distinct elements, ie. physical choreography, virtual choreography, visual composition, music, costume, lighting, model construction, narrative, theme, emotional mood etc. When there is a strong relationship between these elements, then a creative node exists and the scene may 'work'. Through our experimentation we can already see that these nodes are numerous and sometimes occur unexpectedly and that the relationship may be complementary or juxtaposed. As an example, physical choreographic rhythm may be reflected in visual rhythm of virtual elements moving onstage or the rhythm of VE cutting; but even if this relationship is powerful and is augmented by the music's rhythm, if the mood of the music does not complement the underlying mood of the visual scene then the overall scene may fail. However if then placed in a larger context of a piece with it's own narrative thread this may create a particular poignancy with possible comedic effects and then the scene may work. This unity of agreement in elements of an artistic scene was also exemplified by Kennedy's (2000) analysis the film 'Orlando' by Sally Potter within a Deleuzian framework.

Our results demonstrated a tautology inherent in our research. The experiments, which I felt were artistically, complete and I resonated with, were those where I believed the dancer was perceived as 'present' within the VE. When looking for moments where the dancer was perceived as 'present' within the VE, these were the most artistically satisfying and complete moments, the very same moments as mentioned above. I believe the tautology reflects the relationship between *presence* and *sensation*, or how we view the aesthetic. Kennedy describes how from a Deleuzian perspective, the temporal concept of *sensation,* can replace the concepts of pleasure and desire as underlying the determination of the *aesthetic*. She particularly notes that the '"filmic encounter involves all aspects of the body's sensibilities" such that "subject and object integrate into a larger autonomy of involvement; matter and mind meld together, as a technic or as an assemblage" (2000, p31). The 'I' becomes immersed in the sensation of the film or in our case the combined filmic-theatrical experience. Through appreciating the aesthetic experience the viewer finds him or herself, *present* in the diegetic world and simultaneously sees the dancer as also *present.*

4.2   Future Directions

Fitting our results into a Deleuzian framework of Rhizones and nodes, rather than using a Cartesian model, has not only more coherently explained our results, but shown us a way of understanding how the variables of our improvisation experiments relate to each other. In other words, this model can inform the process of our future research. I also suspect that Deleuze's (1989) cinematic time-image is appropriate to our artwork. Our perception of time and our consequent comprehension of imagery is evolving. Our work is now investigating the effect of cutting between different perspectives of a model, just as film cuts from scene to scene. In order to recreate and analyse scenes we are developing ways to record and edit the VE choreography.

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