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Remediation of Moving Bodies: Aesthetic Perceptions of a Live, Digitised and Animated Dance Performance

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ABSTRACT: This article discusses the dance performance project *Interface 2,* which involved live dancers, animated computer projections (remediated creations of the live section), and the interface of live dancers with dancers on film. It analyses the responses and perceptions of an audience to the changing transformations of the media and the staging of the dance performance. Alongside these responses, I compare and contrast some of the philosophical and aesthetic debates from the past three decades regarding dance and technology in performance, including that of the tension between the acceptance or rejection of «unnatural» remediated bodies and «natural» live bodies moving in the stage space.

Keywords: Dance, Remediation, Live, Film, Computer animated.

RESUMEN: Este artículo aborda el proyecto de danza *Interface 2*, que agrupaba bailarines en directo, proyecciones animadas por ordenador (creaciones transducidas de la sección en vivo) y la interfaz de bailarines en vivo con bailarines filmados. Se analizan la respuesta y percepciones del público hacia las transformaciones continuas de los medios tecnológicos de la puesta en escena de la danza. Igualmente, se comparan y contrastan algunos de los debates filosóficos y estéticos de las últimas tres décadas en relación con la danza y el uso de la tecnología en la representación, en particular el referente a la tensión entre la aceptación o rechazo de la falta de «naturalidad» de los cuerpos transducidos y la «naturalidad» de los cuerpos en vivo moviéndose por el espacio escénico.

Palabras clave: danza, transducción, representación en vivo, medios fílmicos, recreación por ordenador.

In the opening of her book *Dance, Art and Aesthetics* Betty Redfern states: «during the twentieth-century, developments in the dance as an art form have been on an unprecedented scale» (Redfern, 1983: 3); and that expansion has certainly not slowed down in the last twenty-five years, with developments in computer and digital technology and «other media» being «a significant feature» (Chapple and Kattenbelt, 2006: 11) in live theatre, dance and performance – much of which can be read about in Steve Dixon's comprehensive historical study *Digital Performance* (2007).

In the 1990s, scholars and dance critics debated the then new developments in dance for camera/video dance and questioned whether this innovation was «dance». Francis Sparshott in his second book on the philosophical understanding of dance writes of how «dance on TV or film necessarily lacks presence» (Sparshott, 1995: 444), even going as far as a commenting that because of the digital tricks and special effects possible «patterns are created in which life is cancelled» (Sparshott, 1995: 449). He considers both sides of the debate, however, by noting that the use of video technology could «revolutionize dance-making» (Sparshott, 1995: 448), partly as a means of recording/notating creative materials, but also by becoming a creative medium of its own:

> the uses made of video as an adjunct to choreography merge into uses of video as a medium of its own […] the electronic manipulability of the video image is not governed by rules susceptible to visual intuition, as film is; its transformations have topologies of their own. (Sparshott, 1995: 449)

Equally, in 1994, in response to the *Dance for Camera* season on television in the UK, Robert Penman criticised this new medium because, while there were many film and editing techniques evident, «dance of any established movement vocabulary was distinctly lacking» (Penman, 1994: 1172). However, just a year later, and with more familiarity with the new medium, he was able to write about Elliot Caplan's filming and editing of Merce Cunningham's *Beach Birds for Camera* (also televised) that it allowed «the choreography to speak for itself» and that the effect of technical skill of film and editing was to «submerge [the] process within the flow and line of the choreography so that it reveals the essence and richness of the work» (Penman, 1995: 1139). Similarly, we have moved from the position adopted by critic Judith Mackrell writing that «the camera can't record dance in ways that are both interesting *and* faithful» (Mackrell, 1997: 236) to Fiona Burnside writing that: «it was not wonderful choreography, wonderful dancing or even wonderful camerawork which held the attention. It was the combination of these elements which came together to create something different» (Burnside, 1994: 15). It seems clear then, that time and increased familiarity with something technically and aesthetically new

enables us to change our views and perceptions of it. In the space of seven years, what has variously been called «dance for camera», «video dance», and/or «film dance» has not only found a more acknowledged label – «screen dance», although some continue to debate the use of this term, or chose not to use it – but this new form has also made critics and other commentators turn from denouncing its place and value in the field of dance, to authors such as Sherril Dodds and Katrina McPherson establishing principles for what makes this medium «good», and how the viewer can best appreciate the qualities and meaning of the works.

Moving on from screen or video dance, within the latter part of the twentieth century– the explosion of pop videos, MTV and other music and dance channels; the expanded capabilities of cable, satellite and digital TV; the variety of uses of mobile phone technology; and the general shift to a screen/visual-based culture – present the possibilities of integrating dance and the new technologies in exciting new practical as well as more critical challenges. Already Apple are selling video iPods, an innovation which suggests that perhaps the dance students of dance today will be the dance artists of tomorrow, experimenting with new performance spaces beyond the theatre, the gallery, and the studio, to the small performance screen of the iPod. Certainly, artists have always been open to exploring different inventions and how they may use them separately, and/or together, to create something new. For dance artists that may have been point shoes, machinery on stage, electric lighting, projection, film, TV, or photography – so it is not really surprising that when people today can surf the net, e-mail, and text messages that dance artists should seek to embrace not just the digital camera but the computer as well, and all that it involves in terms of projection, interactive installation with motion-sensing software, virtual reality, avatars and biotechnology, or bioart (Broadhurst and Machon, 2006). Interestingly, Kent De Spain remarks in his essay on dance and technology, especially computer technology, that «dance has always used the ultimate technology – the human body – to create magic through movement» (De Spain, 2002: 2). In fact «dance artists, have played a pivotal role in using *new media* and their displays, software and interfaces on stage. Dance, it seems has become the ultimate multi-media avant-garde theatrical form», states Peter Boenisch (2006: 151). Yet, despite developments in computer technology, the use of the human body in dance is not going to be replaced. For example, Paul Kaiser, virtual dance collaborator with Merce Cunningham and Bill T. Jones, responds to a question as to whether virtual dance will replace or diminish *real* dance:

> The more we embellish dance with technology, the more we'll start longing to see the real thing again – real dancers in real time and real space with no distractions. But it is also true we can never turn back the clock. (Kaiser, 2002: 112)

To my mind, the issue is not one of whether digital dance and dancers will replace live dancers. There should not be any techno-phobic fear of a purely post-human art form arising from a «take-over» by computers, akin to the general fear of computer technology taking over humanity in the twenty-first century; but, as Hansen reminds us, «from the very beginnings of critical engagement with computer technology, concern has been voiced about the potential, feared by many, celebrated by some, of the end of humanity» (Hansen, 2006: xv). Our concern should be with how we will *see* these new art forms, and analyse and appreciate them. Söke Dinkla, writing on dance and technology, asserts: «our current challenge is […] to see digital media as a cultural technology that has already transformed both our view of our world and our body image. In this situation, an intermediate art form between dance theatre and the fine arts can provide models for allowing us to test out strategies for redefinition» (Dinkla, 2002: 14). Kent De Spain likewise notes: «The philosophical and aesthetic challenges presented by some of the work now combining dance with new technologies can be so profound that critics, scholars, and even artists themselves will be forced to redefine and reassess how they understand and interpret dance» (De Spain, 2000: 3). Susan Broadhurst and Josephine Machon go further in their emphasis of the issue and comment that the «quintessential features» of the new digital performance media «*demand* [my emphasis] a new mode of analysis and interpretation which foregrounds and celebrates the inherent tensions between the physical and the virtual» (Broadhurst and Machon, 2006: xvi).

It would seem that much of the debate re-opens the old question «what is dance?» While many agree it is not a word that can be easily defined (Best, 1974; Beardsley, 1982; Sparshott, 1988; McFee, 1992; Alter, 1996); it did not seem too incongruous for me to present my own model of dance, remediated by technology, to an audience and ask of them «So is this dance?»

The audience for *Interface 2* was comprised of university dance students, dance colleagues, retired school teachers, and colleagues from administration and service departments from within the university (some of whom admitted to regularly seeing dance performed in a theatre and some never having seen «dance art»). All were aware that they would be asked for a response to what they saw performed. In the past, as Alter reminds us in *Dance-Based Dance Theory* (1996), writers such as Selden (1935) and H'Doubler (1940) advocated the need for critics and dancers to «educate» audiences in being able to understand «dance, as art». However, I felt that as there were many dance artists experimenting in this field (including, for example, Troika Ranch, Merce Cunningham, Sarah Rubidge, Bill T. Jones) and many dance practitioners calling for the need for theorists to redefine the dance in this new medium and to present a new model for analysis – so there was a need also to seek to ascertain just what

an audience thinks and feels before they were «educated» by critics. Audiences or «people are very suggestible» says Sparshott (1963: 11), and I wanted to find out what they felt and thought before they were «told» what to experience or think.

The *Interface 2* project was designed to create a dance work that used computer-animated dancers and a film of dancers alongside live dancers. As a dance artist, I am interested in the interface where technology and live dance meet and combine to create something new through their interaction. For very practical reasons, mostly time considerations, the computer dancers did not get to interface with the live dancers in this version. The work as performed is approximately ten minutes in length, with three sections, which on the day of the performance were presented as computer dancers, followed by live dancers, and ending with a combination of film and live dancers. I chose not to describe the work as «screen dance» because both the computer and the film dancers were shown on a screen and I did want to differentiate between them.

The computer software used was *Kandle*. It is designed to assist in movement analysis, mostly by Physical Education teachers and coaches, to help perfect the movement action, for example, in a tennis shot, a golf swing or a high jump. I wanted to work with computer animation because, somewhat like Merce Cunningham (De Spain, 2000: 8), I feel that technology has great potential for enhancing the visual, and I see dance as visual in terms of space, time and energy around and between performers. The *Kandle* animation programme has the capacity to create stick figures over film of the human form for the purpose of biomechanical analysis. When I first saw it being promoted, parts of it reminded me (in a rudimentary way) of parts of Cunningham's *Biped* (1999), and I thought that perhaps it had the potential to by-pass scientific analysis to become part of the creative element of choreography, although with a restricted animation capacity. The other feature that attracted me was its relatively low cost – if it could successfully be used as a creative animation tool, it could become something to integrate into my undergraduate module on technology, because it would be something that students could afford themselves after graduation, should they want to pursue similar creative experiments with animation and dance.

The process of animation involves three stages. First the live dancers are filmed and edited to produce a movie. Then, frame by frame (the 1-minute, 15-second *Kandle* animated dance had 1688 frames) the graphics animation is applied. It takes nine clicks of the mouse to put the dots on the arms and torso, and another eight to do the legs. This is not a time-effective software package, although I do hasten to add that it was never designed to do what I was asking of it.

Image 1

Finally the contrast and background colours are altered (to black) so that the coloured stick figure animations are highlighted. I began to enjoy dismembering the stick figures so that sometimes they had only one arm, or sometimes only torso and arms no legs. At first this was a time-driven decision brought about by the length of time it took to animate each dancer frame by frame; but later it became an artistic one, over which limb/body part/dancer I would actualise (make visual) or exclude so as to make an impact, or shift of emphasis on the screen. In time, I started to learn how I could make figures slowly disappear by the elimination of a dot and a line to a leg and/or arm, frame by frame. As I began to see it, I was in effect re-choreographing the original film of the live dancers for its new representation, of coloured lines and dots: a remediation of the original into a computer dance animation for screen.

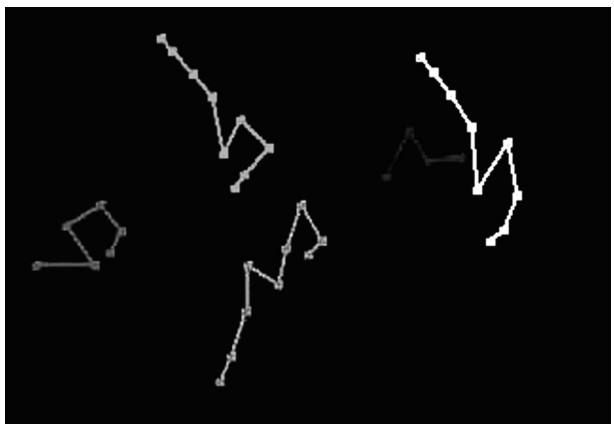

Image 2

The audience were not given the information about how all the stick figures started as real dancers dancing in real time, before they were manipulated on a computer to coloured stick animations. Therefore, perhaps it was not too surprising that some of them saw this animated dance just as shapes – not dance, but only computerised movement. They did not perceive the manipulation of live bodies in motion; they only saw coloured lines and «squiggles». However, although initially when I looked at the stick figures I saw the original dancers, increasingly I began to see something new.

In their written responses on the questionnaires, some wrote that they thought the animations «worked well as an accompaniment to dance», but that if not shown as part of a dance show, that «section one» would seem «to be just a digital image representing the timing of the movement». Some wrote that they thought the animations «interesting» and that they saw how «it related to the dancers»; and one audience member wrote that «as a standalone piece it had the beginnings of beauty, but lost that once the live dancers began».

The starting point from which all sections grew was the section with the live dancers. The main motif came from human exploration in time and space, based on the idea of being confined in a restricted (tubular) space from which the desire is always to escape. The dance is largely an abstract piece, which has as its focus making connections between the dancers, either physically, or between their gestures, actions and energy in the stage space. At times it is layered and complex, but like the music (Bach's *Violin Concerto No 1 in A minor*), it has moments when all come together in unison to allow the eye some respite. The third section, from which the dance gets its name, *Interface*, concerns the interaction between the live dancers on stage with the dance video projected on the cyclorama. Computer software has enabled the digital video to be manipulated so that bodies are reversed or disembodied, movements are repeated or blurred, slide effects have been used to alter the sense of reality, and time has been slowed or paused. Through improvisation with the dancers, choreographic decisions were made to create connections and interactions between the live and digitised dancers; some of the connections were very obvious and others more subtle.

The more obvious connections involved the mirroring of the actions of the dancers on the film by the dancers on the stage:

Image 3

or the response of the live dancers to actions by the filmed ones – such as the live dancers visibly turning their heads to watch the digitised dancers on the film exit off the screen:

Image 4

In «A New Place for Dancing» Bob Lockyer (2002: 160) comments on how «hard it is to make non-narrative material work on the [television] screen». Similarly, Litza Bixler explains how for a new work for television «we deliberately decided to have a clear sense of narrative […] we didn't want to alienate people; rather we wanted to draw them in» (McPherson, 2006: 5). In much the same way, I felt that clearly evident links such as mirroring were more in the «narrative», or easy-to-make-sense-of-realm, and would help the audience connect with the integration of the media. As one audience member said, «I like the way they connected with the same movements». These obvious connections

were in contrast to the more abstract or ambiguous images, or more subtle connections, and required less of a passive viewing from the audience. Such a range of integration gave, I felt, a greater texture to the interface, even though a member of the audience wrote that «it was difficult to follow when it didn't match».

Some of these more subtle interactions involved body parts shown on the film leading and informing the focus of the choreography of the live dancers; for example, below you can see two frames from the beginning «arm section»:

Image 5

Image 6

From previous works using live dancers in interaction with projected images, I have learned that some audience members unused to this visual media

say they find it difficult to «watch both at the same time». Clearly, the more opportunities they have to experience «challenging» visual performances, the more familiar they will become with multi-perceptual presentations, and the more open they may become to seeing that part of the demands placed upon audiences is that they make choices about what to give their attention to at any given point in time; just as they are asked to do in a live dance theatre work by Pina Bausch, or in life when they are walking down a busy street.

In addition to a post-performance discussion, the audience were asked to complete a questionnaire that included open and closed questions to gain quantitative and qualitative responses. The results of these showed that 63% said they had seen dance performances using technology before, but only 38% had done so when it had been using computerised technology. Over a half of the audience, 57% saw all sections as dance; 33% did not see all sections as dance; and 10% were undecided. Generally the «No's» felt that the computer movement was not dance, but more like «shapes» or «disembodied squiggles», and here they were actually not far wrong. One respondent said that it made her question «what is dance?» and some felt that it could be called «digital dance» because it did not show any emotion, but that when the live dancing began, they were able to make some sense of the digital elements.

A general view was that live dancers «show emotion», «are more passionate» and «connect with the audience», making the audience involved in the performance; in contrast, they felt that «computers are just blank and expressionless» and did not have the capacity to make such connections with an audience. In response to a question asking which section they most enjoyed watching, the live dancers received 81% of the votes for being most liked; the next «most enjoyed» was section three, which was the interface of live dancers with the filmed dancers 55%; and the «least liked» was the computerised section. Some, however, did find the computer digitised, or animated section «interesting to watch» and «would like to see more», because «it was different» especially the «not actual dancers» (echoes here of Paul Kaiser's «not real dance») «going into live and filmed dancers».

This last comment gives a more positive response to the work as a whole, and the way that each section approaches technology and dance is perhaps indicative of one way in which to introduce digital dance to new audiences, or to those who are resistant to technology and dance. The interface of the two media was said to be «engaging» because it allowed the audience to «see different angles of the movement at the same time» or because it was «interesting to see the connection between the two» and that «it provided more movement and was clear and engaging». Conversely, some found the interface section visually challenging because it was «too busy» to have both forms (film and live) and they «did not like to chose between which one to watch». Some

audience members felt detached from anything that was not a live body dancing because «deep inside I have a leaning towards live dancers because of the aesthetics of the form». One audience participant wrote: «I enjoyed the live dancers more as it felt more personal and I felt more involved in the performance. It was the first time I have seen digitised dance, so although I enjoyed the new form, it was hard to fully appreciate it».

The tensions between live and digital dance in the responses of the audience seem to reflect previous dichotomies found throughout theoretical writings about dance. In the past, these have been about expression and abstraction, «mind and body, emotion and reason, conscious and unconscious, active and passive […], art and craft, subjective and objective» (Alter, 1996: 4). In my performance, technology was given the «negative» adjectives of the reasoned, unemotional, inexpressive «mind» in contrast to the live dancers (the «body»), which were linked to the more positive terms: passionate, emotive, more real, more sensual. Such dichotomies are in line with the comments of Kerstin Evert in «Dance and Technology at the Turn of the Last and Present Centuries» that the «tension between acceptance and rejection of new technological developments remains pertinent to dance right to the end of the century» and leads to the perceived dichotomy «between the *unnatural* technology and the *natural* body» (Evert, 2002: 38, 44).

The director Elliot Caplan says of artists: «you go out into the world and you try to realise an idea. You struggle with it, you wrestle with it, you try things – it works or it doesn't work you try again» (McPherson, 2006: 2). Caplan's process is what working on *Interface 2* has been for me; a process of trying things, some of which have worked, and some of which have not – but they will serve as a learning experience for the next work with digital and live dance. As the creator, I agree with the audience member who said that «as a standalone piece it had the beginnings of beauty, but lost that once the live dancers began». If continuing with more computer animation, the first section has either to be shown separately, in perhaps a non-theatre setting, perhaps projected in a gallery or on a computer or on the web; or the live and digitised animations have to be integrated with the live dancers in the choreography. Much more has to be explored regarding the manipulation of the lines or «dismembering» of the live figures, as well as allowing them to slowly appear and disappear, so that more can be made of a new visual image, so that it becomes less an animation of live bodies and more fully an exploration of the potential of animated movement on a computer screen. I agree with what Paul Kaiser, from his great experience in virtual dance manipulation, asks: «Is there beauty in motion seen all on its own, without seeing the body that created it […] the more realistic the appearance, however, the more artificial the feeling. […] Doesn't what you leave out of the picture show as much as what you put in?» (Kaiser, 2002: 108-109). Greater

consideration of these visual elements would further change the features of space and time in the animated section one, and could help to vary the dynamics of the animation more, something that was lacking in this initial exploration.

Artists using technology need to consider carefully the space and environment in which their work is shown. As Evert asserts: «coming to terms with new technological instruments and learning how to use them artistically takes time to develop» (Evert, 2002: 54). So none of us should expect to «get this right» in the first exploration. The more artists explore working with technology the more effective they will become at using it. As Joanne Frieson explains in her article *Perceiving Dance* «the aesthetic quality of a dance is also affected by its technical competence» (Frieson, 1975: 100). While she is referring to the skill of the performer, I do feel that the same can be said of the use of technology. In my instance, back-projection of the images during performance meant that the size of the projections was too small, and this lost the impact the filmed dancers had created during rehearsals with the live performers because we had been working with a projections two to three times that size. Haffner notes that imbalance between projection and live action is «a problem frequently discussed with the use of media technology within a performance» (Haffner, 2002: 106). I have also learned from this project that for an even greater interface between live and digitised dancers, projections of images onto other parts of the stage, beyond that of just onto the cyclorama, must be explored. Of course, this development means greater technical support and increased budgets (more projectors, more laptops), which could put more creative explorations with technology out of the reach of some artists. However, more effective skills in the use of technology will mean better quality dance and technology work; but until that happens, appreciation of a medium that is still learning how to interface with technology, with performers, with space and with the audience, cannot be anything but hesitant. There is also a need for a period of reflection by writers before comprehensive analyses are made because it needs time «for identifiable patterns to emerge before aestheticians or dance theorises can analyze them» (Alter, 1996: 3). In the next decade, we will see those informed analyses and interpretations of what are now the new digital dances of today.

In the twenty-first century, dance artists will continue to explore new technological frontiers and the art form will grow to become even broader, richer and more diverse than it did in the twentieth century. New performance spaces will need to be designed to better accommodate the new technology for both dancers (live or digital) and audiences (be they purely spectating or interacting in the performance), so that the potential of going beyond the centuries-old format of theatres and audience-performer relationship can be breached. Such

architectural change does make it more likely that digital dance will be confined to smaller or more intimate spaces, and thus in the realm of the small-scale rather than large-scale artists and companies.

Sean Cubitt feels quite differently in response to the development of digital arts and space, perhaps more akin to the use of the web, the iPod – «The combination of intimacy and publicity is the space of dance […] the new spatial arts of movement will be global, increasingly so» (Cubitt, 1998: 121). However, it is not possible to make comments about those developments yet to unfold. In saying this, I am reminded of Sparshott, who quite rightly said of the writer, the aesthetician and the critic «who necessarily know art only as it already exists [:] what do they have to say to the artist, whose task is precisely to produce the art that does not yet exist?» (Sparshott, 1963: 7). The more opportunities audiences have to see dance with technology, the more some will grow to appreciate it. To borrow from Myron Howard Nadel and Constance Gwen Nadel, who were writing about the avant-garde modern choreography of the 1960s, and the challenges posed to the audiences by those choreographers, audiences should «not expect to be pampered into happiness» but rather they need opportunities to «see dance in a new way», all making «unheard of demands on [their] level of involvement in the total dance experience» (Nadel & Nadel, 1970: 215). In fact some of the audience on *Interface 2* said much the same themselves: «it was the first time I have seen digitised dance, so although I enjoyed the new form it was hard to appreciate [it] fully»; «I found it all interesting as it was different to anything I have watched before»; «I preferred the live dancers, but perhaps that is because I am more used to watching live dancers».

It is clear that if dance as an art form is to continue to reflect our human existence, it cannot ignore the new technology that has become, and is becoming, so much a part of our lives. As one of the audience members wrote on her questionnaire: «I don't think anything will ever take away what I feel when I watch a live dance, but I do think that live dance can evolve to include other things».

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