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**Dancing in the Streets:
The Sensuous Manifold as a Concept for Designing Experience**

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Abstract:

This article builds on the binary rhythms of transparency and reflectivity described by Bolter and Gromala (2003) as being central to the design of interfaces in digital artifacts. It starts from the concept of experience design and suggests that the experience of the interface might better be considered in terms of the 'sensuous manifold'. The authors present the interactive kinetic light installation, *Dancing in the Streets*, as an example of how this sensuous manifold could be seen to work in practice. Many participants described this work as being 'transparent' and 'magical'. The article analyses elements of the installation in relation to transparency/reflectivity to assess the reasons behind these descriptions, and to explore how the sensuous manifold experience was achieved for participants. The location of the installation is defined as a 'non-place' whose uncanniness contributed to the potential for ambiguity and liminality. The use of light as a medium for urban scenography was also a critical factor in the design of the interface. The images and their behaviour in relation to the participants created the final element of the artwork. The installation was successful in getting the people of York dancing in the streets. In doing so, it foregrounds the concept of the sensuous manifold as a useful concept for experience designers.

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Scott Palmer is a lecturer in Scenography at University of Leeds. His research interests focus on lighting design and the interaction between technology and performance. Current projects include *Projecting Performance* in collaboration with Sita Popat and KMA Creative Technologies, investigating the relationship between performer, operator and digital 'sprite' which is documented in '*Creating Common Ground: Dialogues Between Performance and Digital Technologies*' (with Sita Popat) in *International Journal of Performance Arts & Digital Media* vol 1. Scott is the author of the Hodder and Stoughton *Essential Guide to Stage Management, Lighting and Sound*, has published articles on technical training and lighting design practise in the British theatre and is currently joint Editor of the Association of Lighting Designer's *Focus* journal.

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Sita Popat is a lecturer in dance at University of Leeds. Her research interests centre on the relationship between dance choreography and new technologies. Her current projects include *Projecting Performance* (AHRC-funded) in collaboration with Scott Palmer and KMA Creative Technologies, investigating the relationship between performer, operator and digital 'sprite'. She is a co-investigator on *Emergent Objects* (AHRC/EPSRC-funded), using performance perspectives to investigate the modelling of roles for design in a technological society. Her book on online choreography is published by Routledge, titled *Invisible Connections: Dance, Choreography and Internet Communities* (2006). She is Associate Editor of the *International Journal of Performance Arts and Digital Media*. In her spare time, Sita enjoys playing MMORPGs and is currently still hooked on World of Warcraft.

Keywords: Installation; Experience; Movement; Urban scenography; Sensuous manifold; Transparency / reflectivity.

Introduction

In January 2005, technologists at KMA Creative Technologies Ltd and performance academics at the University of Leeds came together with an idea to get the people of York, England, dancing in the streets. The idea consisted of a projected light installation on a street corner that would encourage passers-by to 'dance', through physical interaction with the digital image projections. The resultant artwork, *Dancing in the Streets*, became a regular stopping point for shoppers, clubbers and party-goers to engage in danced activities on the city streets. Visitors to the installation described the experience as 'playful', 'transparent', and 'magical'. This article proposes the concept of the 'sensuous manifold' in relation to interface design and experience, and uses this to examine the reasons why this installation prompted such responses. It considers the space in which the installation was located, the use of light as the main medium of the work, and the participants' interactions through game conventions. It highlights the folding of transparency and reflectivity created through the combination of these aspects, which participants experienced as a 'sensuous manifold'.

Dancing in the Streets was commissioned by the 'Renaissance Illuminating York' project. It was the second project in a ten-year strategy to encourage greater use of the city after dark, enhance resident's and visitors' experiences of York in the evening, and combat public fears for safety and security at night. 'Illuminating York' seeks to combine cultural objectives with those of the tourism and creative industries in the city. It aims to use "creativity and innovation to animate the historic urban environment and to create year-round drama and beauty." [1] *Dancing in the Streets* opened on March 11th 2005 with a performance by University of Leeds dance students which launched both the installation and the York Festival of Science and Technology. (Fig.1) The installation took the form of a kinetic light sculpture, which continuously morphed as it responded to the positioning and movements of bodies within the space. The pavement became the canvas for this interactive urban scenography, which enticed passers-by into a hitherto deserted square off Davygate in York's city centre. The heat from participant's bodies in the space was detected through a thermal imaging camera that provided the input for digital images projected from above onto the pavement. A range of images were provided for visitors to interact with, including swarms of butterflies which clustered and appeared to attach themselves to individuals, footprints that followed people around the square, and more abstract arrangements of shapes, lines and ribbons that linked people together in the space. Pierre Chassereau's 1750 map of York was also used so that visitors could fleetingly uncover aspects of the historic city by leaving trails of light across the floor. A game of 'football' using balls of light became one of the highlights of the installation and encouraged elements of competitive team play. Following the success of the installation, the planned three week period was extended so that York's inhabitants and visitors to the city could discover and revisit the installation until mid June 2005. People walking along Davygate and glancing into the square would see individuals and groups literally appearing to dance in the street as they interacted with the light images on their bodies and on the ground around their feet.

Figure 1: Image from performance by University of Leeds Dance students at the launch of *Dancing in the Streets*. (Dancers: Amy Sharp, Lee Dobson; Photo: Paul Davies)



The interface as sensuous manifold

Participants in *Dancing in the Streets* told us after they had taken part in the installation that they had been drawn in to the experience by the 'simplicity' and 'transparency' of the interface with the technology. While we could appreciate the absence of obvious technology in the space where the installation was experienced, we were intrigued by the intensity of the experiences that participants described. We set out to explore the nature of this 'transparency', and our research led us to consider afresh the concept of 'experience design'. There has been increasing recognition over the past decade that "to design a digital artifact is to choreograph the experience that the user will have" (Bolter & Gromala 2003, p.22). This awareness of, and accountability to, the experience of the user directly combats habitual tendencies to wariness of technology's perceived potential to steal our humanity and present us with a cyborgian future, akin to that of Gibson's *Neuromancer*. Artist and theorist Roy Ascott has been at the forefront of the field of telematic performance for over forty years. In his 1990 essay "Is there love in the telematic embrace?", he suggests that there are:

...deep-seated fears of the machine coming to dominate the human will and of a technological formalism erasing human content and values. (Ascott 1990, p. 233)

The Frankenstein monster is a prime example of the myth. Yet clearly the shift towards choreography of the user's experience seeks to promote positive connections between human and technology, equalising the relationship so that the potential for machinic dominance of the cyborg is no longer an issue. The manifestation of this choreography is both physical and conceptual, occurring through the designed interface between the user and the object. The experience of the user and the functionality of the object become intrinsically linked through the behaviour of one in response to the other. The designed object shifts its conceptual manifestation to that of an event or 'objectile', always in the process of becoming (Deleuze 1993), and thus the experience of the user is always in flux, influencing and being acted upon by the object. The nature of the transparency of the interface between object and user is fundamental to this interplay of influences and actions.

Nathan Shedroff, a pioneer in the field of 'experience design', suggests:

It is not enough for interfaces or designs to be merely usable. They also must be desirable, useful, needed, understandable and appropriate. They also need to be human, which implies vast diversity. (2003, p155)

Performance is rarely concerned with the usefulness that necessarily underpins Shedroff's interfaces. It can focus upon the user's engagement solely and without any distraction by external issues of functionality. The 'understandable and appropriate' were essential to *Dancing in the Streets*, as participants had to be able to walk into the space and discover the installation without instruction or even prior awareness of the artwork's existence. We sought the 'desirable', as interaction with the work was intended to be playful and enjoyable for participants. Like Shedroff, we also wanted the experience to be 'human'. We interpreted this as the human element of the experience being both equal and intrinsic to the technological element. In *Dancing in the Streets*, we sought a marriage between human and technology in the moment of interaction; choreographing the user's experience via an interface that had appropriate levels of transparency to engender a deeply playful engagement with the technology. Furthermore, the installation promoted human content and values through the ways in which the technology engaged the humans with each other. The term 'user' becomes outmoded in the face of design that prioritises neither human nor technology, and so instead from here on we will use the term 'participant' to describe the human element of the relationship.

What, then, are appropriate levels of transparency for this kind of engagement? How do we achieve the design of the understandable, appropriate, desirable and ultimately human? There was an assumption by some of the *Dancing in the Streets* participants that we had achieved almost total transparency and they attributed the engaging and enjoyable nature of their experiences to this notion; the technology enabled them to interact with the moving light forms but the mechanisms by which it did so were not foregrounded, creating an effect that many described

as 'magical'. This may sound initially as if total transparency lay at the heart of these participants' experiences, but we shall explain that there was actually a more complex and fundamental level of engagement involved.

Bolter & Gromala (2003, p.6) argue that it is a common error to assume that the goal of design is to achieve transparency, suggesting instead that "the goal is to establish an appropriate rhythm between being transparent and reflective". For Bolter & Gromala, the rhythm is focused upon awareness of the technological interface. They argue that:

We should be able to enjoy the illusion of the interface as it presents us with a digital world. But if we cannot also step back and see the interface as a technical creation, then we are missing half of the experience that new digital media can offer. (2003, p.27)

This binary engagement with the digital interface assumes a focus on functionality that frames the technology as a 'window' to another (digital) world that may be either seen or ignored. It carries with it connotations of performance within a proscenium theatre, where one may admire both the illusion of the world created and the techniques used to create that illusion. This distancing effect suggests an auratic posture reminiscent of Walter Benjamin, and belies the constant iteration implied in the Deleuzian concept of 'objectile', which is predicated upon the fluidity of transparency and reflectivity in the simultaneous tension and resolution of becoming (Deleuze & Guattari 1988). We suggest that the experience of transparency and reflectivity is not wholly located at the technological interface in interactive digital artworks, but is equally sited in the mode of aesthetic experience. How, then, might the rhythms of transparency and reflectivity function within this?

The technologically focused binary of Bolter and Gromala's negotiation of the interface remains largely conceptual. It is linked to the dichotomy that Jeff Malpas describes when he says that things are brought close by telematic technologies, but they are not close in the sense that the computer screen and mouse are close (Malpas 2001, p.115). By contrast, in *Dancing in the Streets* we found that participants engaged in a phenomenological experience; a 'sensuous manifold' (Crowther 1993, p. 4) between transparency/reflectivity, presence/absence, real/illusory, where the 'complex whole' of the interface demanded an embodied engagement. Paul Crowther, in his thesis on *Art and Embodiment*, describes how in the sensuous manifold:

It is this integral fusion of the sensuous and the conceptual which enables art to express something of the depth and richness of body-hold in a way which eludes modes of abstract thought – such as philosophy. (1993, p.5)

Crowther's comments particularly concern the art of painting, and his aim is to elucidate the embodied response that the viewer may experience when viewing a work of fine art. Yet this collapsing inwards of the sensuous and the conceptual can be seen as a metaphor for the rhythm between transparency and reflectivity in digital art. The rhythm based on the sensuous manifold provides a route to heightened immediate engagement that Bolter and Gromala's binary metaphor at least partially negates. Crowther turns to Merleau-Ponty to explain this type of heightened engagement:

...for Merleau-Ponty our fundamental contact with the world is pre-reflective and involves our sensory, motor, and affective capacities, operating as a unified field. In it we make no distinction between seeing and knowing or between visual and tactile perception. (1993, p.107)

He cites Merleau-Ponty's assertion that Cezanne's paintings return us to 'this level of primordial perception' (p.107) with a 'full innocence' (p.114) where that lack of distinction, the sensuous manifold, exists. This has two major consequences for *Dancing in the Streets* and other works that employ this approach to digital art. The first is that this innocent, pre-reflective engagement can be used to engender playful responses, as we will discuss later in the paper. The second is that the sensuous manifold of transparency/reflectivity is a fundamentally presence-making experience, operating at the pre-reflective level of 'body-hold' where the viewer or participant is arrested by the aesthetic effect. As such, it carries the potential for transformation. In the *Dancing in the Streets* installation, the sensuous manifold was achieved through the integration of technologies; the space itself as a human-crafted environment, the use of light as an expressive medium, and the digital interface technologies that KMA brought into that space.

Space: Place/Non-place

Dancing in the Streets was staged in a small square, enclosed on three sides by the brick walls of buildings and on the fourth by Davygate; a narrow, ancient street within the old city walls of York. The square is a largely forgotten place that appears to have little function in the modern city. Davygate itself is a space of transition, an historical thoroughfare between more important areas of the city centre, now subject to traffic restrictions. It is situated within a busy commercial area, close to the market in Parliament Street and it is home to small department stores, cafes, bookstores and up-market clothes shops.

When we were walking around York seeking a location for the installation, the square seemed to us to be equivalent to an empty stage. It is at first reminiscent of many bombed out spaces found in post-war British cities since it has the appearance of a space where a building once stood. Set back from the road and raised above the road level by three steps, its enclosure and height combine to ensure that it is largely bypassed by those traveling along Davygate itself (Fig. 2). By night it becomes all but invisible, since no ambient streetlighting falls within it. It is covered with flagstones and has been populated by four iron benches, two trees and two square planters. (Figs. 2 & 3) This 'dressing' appears to be an attempt to make the space more attractive and to provide the square with a purpose. Yet it is not an inviting space and is consequently largely neglected. It leads nowhere and, in spite of the public benches, appears to have little organic or social function. Thus it conforms to notions of an 'Edgeland' (Shoard 2002) as a result of physical neglect which means that it does not register either on the public's consciousness or indeed on many of the modern maps of York city centre. Yet despite its seeming designation as a 'non-place' (Augé 1995, p.94), we were intrigued by this location and its potential as a place for performance. The presence of a small number of eighteenth century gravestones arranged around the walls of the square seemed to indicate histories that were worthy of investigation. Further research suggested that despite its apparent invisibility to the inhabitants of modern-day York, the square has a rich and varied past. Once part of the Roman military garrison, it had later been the site of Davy Hall prison and the burial ground of St Helen's Church. The square was created in 1745 following the city's purchase and subsequent demolition of the prison and the removal of the graveyard. [2]

Figure 2: The square in which the installation was located (Photo: Scott Palmer)



Figure 3: Looking out onto Davygate from inside the square. (Photo: Scott Palmer)



We could at this point have chosen through our artwork to expose these histories and defy the public designation of this square as a 'non-place' by redefining it as 'place' in Augé's terms: "as relational, historical and concerned with identity" (1995, pp.77-78). However, we chose instead to utilize the nature and qualities of this space which had been activated by its current status as 'non-place'. Today the space echoes De Certeau's notion of "bumps on the smooth utopias" of the modern city; "Ancient things become remarkable. An uncanniness lurks there, in the everyday life of the city. It is a ghost that henceforth haunts urban planning" (1998, p.133). There is transparency to such a 'non-place', since it is not actively noticed or engaged in modern urban living. Yet there is reflectivity in its very 'uncanniness' and evidence of ancient yet little-known histories. De Certeau argues that features like this square are characters on the urban stage with secret personas:

... wild objects stemming from indecipherable pasts, are for us the equivalent of what the gods of antiquity were, the 'spirits' of the place. Like their divine ancestors, these objects play the roles of actors in the city, not because of what they do or say but because their strangeness is silent, as well as their existence, concealed from actuality. Their withdrawal makes people speak – it generates narratives- and it allows action; through its ambiguity, it 'authorizes' spaces of operations. (1998, p.135-6)

The rhythms of transparency and reflectivity give this space its strangeness, a place that is also a non-place, creating something akin to a vacuum in a busy city centre. The very 'unknownness' of the space endows it with presence through a sense of absence. The potential that this creates is such that mounting the few steps up to the square has a more distancing effect than stepping off the road into a shop or onto another street. The act of entering the square carries deeper significance because of its identity as non-place. We recognized the transformative potential that this had for engaging people in an interactive artwork, since the non-place is already strange and outside known boundaries. The potential to be 'ambiguous' and 'authorize' action could promote the folding of transparency and reflectivity that we sought.

Choreographer and academic, Victoria Hunter has written about the transformative potential of site-specific performance. She proposes that for audience members the site is:

... re-inscribed by the resonance of performance creating the potential for a personal and individual re-evaluation of the site. This re-evaluation then equates to a process of 're-location' whereby the individual attempts to situate themselves in relation to the new-found site and through doing so challenges the individual to examine and question their own sense of location and locatedness. (Hunter 2006, p.370)

Hunter is describing how the act of witnessing the performance enables viewers to experience the location anew and 're-locate' themselves in relation to it. The aesthetic effect refocuses daily space as performance site, and that refocusing remains beyond the duration of the performance in the imagination of the viewer when they return to that space. The place/non-place qualities of our chosen space were intended to enable relocation of self more readily as its ambiguity and uncanniness increase the intensity of the experience of being in that place, and heighten the transformative nature of presence for participants.

Light: Urban Scenography

The remit of this installation was not simply to engage individual participants in the potentially transformative experience of dancing in the streets. The Renaissance Illuminating York project sought transformation of the city itself after dark. We were therefore required to use light as the key medium for the installation, and we found that the rhythms of transparency and reflectivity that we wished to create within the individual's interactive experience are also evident in the use of light as a tool for urban scenography. Light appears at one level to be transparent in that it seems only to show what is there. It is also reflective in that it reveals, sculpts and enhances the buildings and spaces of urban landscapes. The use of light to reveal/conceal has the potential to play with ideas of presence/absence that complement the place/non-place identity of the square.

Dramatic lighting of the environment dates back at least to the Renaissance spectacles of the Italian courts and their Light Festivals and Water Feasts where eye witnesses speak enthusiastically of the dazzling, glittering brilliance of the outdoor theatrical performances and their associated processions (Bergman 1977). Light was worshipped and represented a triumph of life over death and darkness, yet it is the active interface between light and darkness that allows this role to be created. Festivals of light invariably begin with darkness, into which light encroaches as a transformative element. The power and subtlety of light as a tool for transformation is inherent in such festivals, long celebrated in societies all over the world. Associations with peace, pleasure and safety are deeply embedded in the concept of light within these cultural events.

The temporary or permanent lighting of city buildings and areas has developed in more recent years to a level where it has become recognized as a form of urban scenography. Town planners and regional arts coordinators have increasingly recognized light as having a transformative impact on the urban environment.

Today, light is considered by many local authorities to be one of the main components of their policy for urban development and for enhancing their international influence, used to show off all the riches of their heritage and playing an important role in improving the quality of life in the city. [3]

The focus of such urban lighting designs has remained largely on the buildings and edifices. The city of Lyon, France, has chosen to use light to make a dramatic urban statement, employing lighting designers to transform over two hundred buildings and public areas into nocturnal panoramas. York has embarked on a similar programme, aiming to animate its historic environment whilst inspiring and showcasing creative talent. The French 'lighting artist' Patrice Warrener, who has worked extensively in Lyon, was commissioned to work in York in the autumn of 2005 and chose the façade of the York Minster to create *The Heart of Yorkshire*. His work has been described as using a "unique chromolith technique of 'painting' buildings with light. The fundamental principle of his work is to showcase and reveal the beauty in the building itself rather than use it merely as a screen onto which he projects." [4] This description of 'revealing' the beauty in the building indicates the transformative element of the light. He could not change the building itself, but he could transform the way that we see it through his use of light and, by default, the absence of light.

Urban scenography requires both light and its absence in relation to each other, and the rhythms at the interface between the two create both the aesthetic interest and potential for transformation. The absence of artificial light in our chosen square provided a canvas that suited the uncanniness of the place/non-place. The experiential nature of light as both transparent and reflective enabled us to focus on interfaces that exploited this. As in the myths and festivals, light would drive back the darkness and illuminate the space, but there would be no complete light or darkness since the fluctuating interface between the two enhanced the ambiguous 'Edgeland' that we hoped would authorize action and encourage participants to engage in the interactive nature of the work. The partial revelation of the semi-lit space would hint at the histories and current usage of the place by allowing some awareness of the gravestones, benches and planters, but would background these objects in relation to the illumination of the people moving

in the space. We were privileging people and their relationships in our urban scenography, sensing the heat of participants' bodies via the thermal imaging camera and then projecting the light sources back onto those bodies in space. We revealed the dynamics of human movement rather than the facets of historic buildings, and thus the interface was dependent upon people moving and interacting with both the light projections and each other. Referring back to the beginning of this article, Shedroff might say that we were making the interface essentially 'human'.

Interactivity: Playing and responding

The choice of the space and the use of light as a medium were made to facilitate ambiguity, liminality, designed to promote pre-reflective engagement by drawing the participant into an environment that was distanced from 'normal' activities and thus potentially imbued with 'innocence' in Crowther's terms. The final element of the work was the design of the interactive interface by which the participant would engage with the light within this space. The movement of the participants was detected by a thermal imaging camera. The signal from the camera was processed by one computer, and then fed to another which generated the digital images that were projected back down into the space. As the camera sensed the participants' movement in the square, the corresponding images morphed accordingly. The computers were housed in a second-floor room of an adjacent building. The output of the second computer was linked to a data-projector pointing out of the window, and the light was deflected down into the square using a high-angled mirror. The only elements visible from the square were the mirror and the camera. The camera, as a piece of military hardware misappropriated for the purposes of this installation, looked similar to the ubiquitous CCTV cameras found in city centres in the United Kingdom. The size of the mirror and its location high above the square meant that it was not immediately visible. The computers were hidden from sight completely. (Fig. 4)

Figure 4: The two computers in the second-floor room in the adjacent building to the square.
(Photo: Scott Palmer)



The invisibility of the technology was a contributing factor to the 'magical' nature of the experience, but it was not the only element that enabled choreography of the sensuous manifold at the experiential interface? Robert Wechsler of Palindrome argues that digital interactivity is often characterised by 'automation, not interaction'. He explains that:

Interaction implies a back-and-forth of energy and impulse between artists or between artist, artwork and audience – not simply one isolated action triggering another. [5]

Susan Kozel, a dancer and academic with an established history of working with digital technologies, calls for 'responsive' technologies that are 'designed to generate meaningful responses' (2005, p.40). The design for *Dancing in the Streets* needed to be based upon a framework of possibilities, so that participants could interact and improvise within a responsive environment. We sought an interface that would feel transparent, but would be sufficiently reflective to produce a meaningful response, an aesthetic effect regardless of how the participant

chose to interact with it. The digital images were selected and modified to establish key ways in which they would respond to human interaction. They were fixed in terms of their behavioural qualities, range of colour, and the sequence in which they appeared to the participants on a regular timed cycle, but each image had fluidity as it was constantly responding to the input from participants. Some images, such as the ghostly footprints, echoed the space in which the installation was set. (Fig. 5) Others were unrelated, such as the butterflies and the abstract lines and ribbons. The overall aesthetic of the artwork was carefully controlled to provide artistic cohesion and form. However, crucially the ways in which the audience could interact with these images were not fully prescribed, but existed within a framework that included potential for significant variability and even surprise within the rules of engagement. KMA describe how their work is “rooted in the modelling of the physics of nature, using the mathematics of swarm behaviours, springs and masses, cellular automata and chaos.” [6] The chaotic elements existed within the clearly defined broad framework that enabled the existence of rules within which to play, but it brought a level of fluidity and spontaneity that made the piece inter-active rather than automatically re-active. The butterflies that flocked around participants’ feet would fly away out of the projection if the participant moved too quickly and they were unable to keep up. The ghostly feet, whilst following the participants’ pathways, would dictate their own routes to a degree. Sometimes participants would run after the escaping butterflies or footprints to try to recapture them, reacting to the computer programming so that any linear equation of action/reaction was disrupted and the game-like qualities enhanced.

Figure 5: Ghostly footprints following participants. (Photo: Paul Davies)



Equally, participants brought their own independent choices and modes of engagement to the work, as they discovered the rules and worked out how they wished to interact with them. Participants could step in and out of the light source, selecting the images with which they wished to interact. (Some groups even worked out the length of time between cycles of the ‘football’ game and would return to the square to participate in that specific element again.) One of the key factors that made the installation so successful was its simplicity from the point of view of the participant. The rules of engagement were not written down or taught, but were inherent in the design of the images and their programming. The clear mapping between action and reaction allowed participants to engage immediately with the situation, yet the chaotic elements maintained sufficient unpredictability to sustain a sense of interactive engagement over a period of time. The recognition of the game aesthetic here was critical to the experience of the sensuous manifold in the established rhythm of transparency and reflectivity. The transparency of the technology allowed the participant to walk into the space and realise that the lights were responding directly to his or her motion in space, and to play with that response. The reflectivity inherent in the ‘rules’ was understood by participants as part of the game – with the behaviour of the images enabling, responding or failing to respond – and thus regained transparency within the

artwork. For example, if the participant moved within the parameters of space and timing that the computer could sense then the images responded, but if the participant stepped out of the range of the infrared camera then the images no longer responded to his or her movements. The more subtle types of reflectivity such as the butterflies failing to keep up and flying away if the participant moved too quickly, became part of the rules of the game that instilled further the sense of interaction rather than action/reaction. The precise rhythm of transparency and reflectivity is a key reason why this interactive installation was received so enthusiastically by participants.

The installation was most effective when more than one person was interacting within it, as might be predicted from Graham's description of interactive art as being like 'throwing a good party' (1996, p.171). The introduction of other people into the simple yet chaotic relationship described above allowed for still more sophisticated interactive experiences. It had been a major aim of the project, to get strangers dancing together and communicating through movement where they might otherwise remain isolated, passing on the street. The 'football' game was the most obvious form of group engagement, with the potential to have either individual players or multiple participants engaged in team play. The clear sense of purpose and goal-oriented play led to reports of particularly strong experiences of interaction and communication. Yet it was interesting that the more abstract digital images encouraged a different kind of playful communication. We were inviting participants to improvise together within the framework that the installation provided, and Attali's manifesto for composition proved influential in our work:

We are all condemned to silence unless we create our own relation with the world and try to tie other people into the meaning we thus create. This is what composing is. Doing solely for the sake of doing ... Playing for one's own pleasure, which alone can create the conditions for new communication ... it relates to the emergence of the free act, self-transcendence, pleasure in being instead of having. (Attali 1985, p.134)

The installation provided a literal interpretation of Attali's metaphor of tying other people into the meaning that we create, in that one of the images used purple ribbons of light like a game of 'Cat's Cradle' to link everyone in the space. (Fig. 6) As participants moved into the space, the ribbons immediately extended to include them in the web, changing the projected geometric shape to accommodate the new body. The instant, dynamic response promoted a sense of connection that was fundamental to the work. It did indeed tie people together in a playful and communicative engagement with the space, resulting in spontaneous choreography of duets and groups. The linking of strangers via light beams sometimes led to eye contact and laughter, rather than necessarily engendering speech, so that the communication that was shared was non-verbal and indeed tended towards the pre-verbal of children's play. The social side of the installation underpinned the early intention to have people not only dancing in the streets, but dancing *together* in the streets.

Figure 6: The Cat's Cradle image, linking dancers Ben Taylor, Melanie Ward, Amy Sharp and Lee Dobson. (Photo: Paul Davies)



The Sensuous Manifold: Folding transparency and reflectivity

Interactions with the abstract figures seemed to promote a greater sense of what Attali describes as 'playing for one's own pleasure' and 'doing solely for the sake of doing'. A particularly strong example of this was evident when a woman came into the space and discovered as she walked around it that the white squares lit up under her feet. She became entranced by this, and started to twirl as she moved around the space, holding the edges of her long coat out and looking down at the floor to watch the lights. She seemed unselfconscious and at ease in the experience, despite other people being in the square with her who she apparently did not know. She appeared to have achieved the "full innocence" that Crowther describes in relation to the sensuous manifold, experiencing a heightened engagement and reacting with a child-like playfulness. Apparently she had not understood that the lights were responding directly to her body heat and not to her clothing or how she manipulated it. This did not affect her obvious enjoyment. In fact her circling movement with constantly shifting projections on her extended coat became a beautiful and hypnotic image. As a participant she seemed unaware of the image that she was creating but it served to attract attention from other passers-by who then also entered the space and interacted with the projected light. Many participants reported that they had initially been self-aware and slightly embarrassed about interacting with the installation in front of people whom they did not know, but once they had started to play with the light they quickly lost their self-consciousness and became unaware of their surroundings as they looked down at the lights on the pavement.

The space and the choice of light as a medium had, as we have explained, set up an environment in which there was ambiguity, liminality, safety. The small square became a safe place to play, in a public environment where play is not usually an assigned activity for adults (Schechner 2002, p.80). The act of playful engagement with the installation was further encouraged by the choice of simple game conventions to draw people into the experience. Reflective elements of the interface were experienced loosely as rules of the game, and had thus fostered certain behaviours and understandings that promoted playful interaction. No instructions were necessary because the rules were simple and intuitive enough to be learnt within the activity. Games theorist, Jarvinen asserts that "games do foster [...] moments when aesthetic dimensions of things rise to the surface" (2002, p.190), as they point towards moments of aesthetic significance for those individuals. Here, moments of game and art aesthetics intertwined as it was unclear which was intended to be paramount. A large proportion of participants interviewed after experiencing the installation used the word 'magical' in relation to their experiences and described moments of self-transcendence and pre-reflectivity closely aligned to Crowther's description of the sensuous manifold. Attali's "pleasure of being, instead of having" was accentuated (perhaps slightly ironically) by the child-like delight of these fully embodied interactions with intangible light and space a few metres from a busy shopping area. The compositional element of the interactions was part of the "pleasure of being" that it instigated, since the ephemeral moment of interaction was in a constant state of becoming and no trace was left for critical analysis or judgement. When the participant left the space, they carried the memory of that experience with them but nothing was left behind. Thus the risk involved in play was minimal, and the gain was personal to each participant.

The literal invisibility of the technology tucked away in a room out of sight of the space, the simplicity with which the rules of engagement were learnt through familiar, game-like conventions, and the lack of physical trace on leaving the space all combined to cause participants to tell us that they had greatly appreciated the extreme transparency of the interface. Yet the rules of engagement themselves and the aesthetic control inherent in design of the images were strongly reflective in terms of defining what the participants could and could not do. The myth of transparency, as Bolter and Gromala refer to it, was propagated in this installation by the ease with which the interface was negotiated and understood, and the 'body-hold' that the aesthetic experience gained on the participants. What was mistaken for transparency, we propose, was actually even more than what Bolter and Gromala (p.6) would term the 'oscillation' of

transparency and reflectivity. It was the folding of transparency and reflectivity in the sensuous manifold through a fully embodied and pre-reflective experience.

Summary

Dancing in the Streets was not designed to be watched, although one might choose to watch others using it for a while. A dance colleague pointed out to us that everyone was looking down at the patterns that they were creating on the ground, so it was not very visually engaging as a performance. This installation was designed to be experienced as an artwork, and so it was created via workshops in which the artists developed the work by playing within it from the earliest possible point. Game rules arose naturally out of the playful environment in which the installation came into being, as we tested it in a large theatre studio at the University of Leeds. Undergraduate students from the Dance and Performance Design programmes helped us to play with the ideas and develop the interface. The football game arose directly out of people 'messaging around' with a set of spherical images. A spontaneous movement where one person pretended to 'kick' the small round projection towards another evolved naturally within the design of the installation, with scoreboards being included on either side of the projection area. (Fig. 7) This practical, playful approach to the design process contributed directly to the 'natural' feel of the rules of engagement.

Figure 7: The football game being developed in rehearsal in the theatre studio. (Photo: Scott Palmer)



Crimp (1993) identifies a shift in artworks away from institutional spaces to public space and in so doing creating new democratic relationships between the artwork and the spectator. The shift that we instigated into a public space that was designated a non-place had particular implications for our work and the ability for participants to engage pre-reflectively. The space was set back and up from the street, and encouraged the impression of having moved further away from the thoroughfare than the distance traveled. The remoteness of the space from 'normal' life supported the potential for a 'magical' experience, particularly at night when the space was dark. The introduction of light, particularly colourful, moving lights, to that dark space maintained a feeling more reminiscent of lighting for festivals and celebrations than functional light; urban scenography that featured people rather than buildings underpinned the interactive nature of the space.

The success of *Dancing in the Streets* was dependent upon sufficient transparency to enable the participant to begin using the installation immediately, combined with enough reflectivity in the rules and the aesthetic to surprise and give pleasure. The critical balance is transformative in nature. We see the space anew, and experience our relationships with the space and with each other anew. If the experience were entirely transparent then there would be no magic, as there would be nothing to arrest the attention or create the 'body-hold' of the aesthetic experience that Crowther describes. Yet the nature of the experience here resulted in claims for transparency from almost every participant that we interviewed. We suggest that the field of experience design

would benefit from exploring the concept of the sensuous manifold and pre-reflective engagement to inform current understandings of how interfaces are experienced.

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Notes

[1] Information from Renaissance Illuminating York project web site:

<http://www.renaissanceyork.org.uk/> (accessed 23rd November 2006)

[2] Information quoted from *The Royal Commission for Historic Monuments, Volume V*. Access to materials kindly provided by City of York Archives.

[3] Information from <http://www.luciassociation.org> (accessed 23rd November 2006)

[4] For images and further information see <http://www-us.flickr.com/photos/ravensthorpe/59787220/> (accessed 25th November 2006)

[5] Information from the Palindrome web site: <http://www.palindrome.de/> (accessed 20th November 2006)

[6] Information from KMA's web site: <http://www.kma.co.uk/>

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