

## ABSTRACT

Title of Document: DIGITAL THEATRE: A “LIVE” AND  
MEDIATED ART FORM EXPANDING  
PERCEPTIONS OF BODY, PLACE, AND  
COMMUNITY

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**Keywords:** Digital Theatre, digital performance, dance technology, body, place, telematic, community, collaboration, agency, media, Internet, “live,” computer, theatre, cyberplace, cyberspace, multi-site performance, Access Grid, Virtual Reality, MIDI, Digital Performance Archive

This work discusses Digital Theatre, a type of performance which utilizes both “live” actors and co-present audiences along with digital media to create a hybrid art form revitalizing theatre for contemporary audiences. This work surveys a wide range of digital performances (with “live” and digital elements, limited interactivity/participation and spoken words) and identifies the group collectively as Digital Theatre, an art form with the flexibility and reach of digital data and the sense of community found in “live” theatre.

I offer performance examples from Mark Reaney, David Saltz, Troika Ranch, Gertrude Stein Repertory Theatre, Flying Karamazov Brothers, Talking Birds, Yacov Sharir, Studio Z, George Coates Performance Group, and ArtGrid. (The technologies utilized in performances include: video-conferencing, media projection, MIDI control, motion capture, VR animation, and AI). Rather than looking at these productions as isolated events, I identify them as a movement and link the use of digital techniques to continuing theatrical tradition of utilizing new technologies on the stage. The work ties many of the aesthetic choices explored in theatrical past by the likes of Piscator, Svoboda, Craig, and in Bauhaus and Futurist movements.

While it retains the essential qualities of public human connection and imaginative thought central to theatre, Digital Theatre can cause theatrical roles to merge as it extends the performer’s body, expands our concept of place, and creates new models of global community.

DIGITAL THEATRE: A “LIVE” AND MEDIATED ART FORM  
EXPANDING PERCEPTIONS OF BODY, PLACE, AND COMMUNITY

By

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## **Dedication**

I'd like to dedicate this work to the memory of Sy Weisman, Randy Sadler, Richard Snyder, and Paul and Mary Masura, without whom I would not be here; and to all those who encouraged me.

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## Chapter 1. Introduction

*If the expression 'all the world is a stage' is (or seems to be) no longer just a metaphor, but on the contrary a characteristic feature of our mediatized culture, then we really do need a stage on which the staging of life can be staged in such away that it can be deconstructed and made visible again.*<sup>1</sup> ~Chiel Kattenbelt

In a global age where, through digital technology, the world has become the stage for the exchange of commerce, culture, interpersonal communication and other forms of information, we need a new understanding of theatre. As Chiel Kattenbelt indicates, to say 'all the world is a stage' is not just an expression, for electronic world stages are being constructed which link performance and public places across the globe.<sup>2</sup> Theatre itself has become a metaphor for new forms of communication and technology.<sup>3</sup>

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<sup>1</sup> Chiel Kattenbelt, "Theatre as the Art of the Performer and the Stage of Intermediality," in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 29-39 (Amsterdam and New York: Rodopi, 2006), 38.

<sup>2</sup> "On July 12, 2003, the 'First Virtual Square of World Culture' was opened in Dresden...it offers ideal preconditions for its linkage with further interactive public places in other countries. Hence, the idea of a new, interactive art in public space is to be used as an opportunity to install similar Squares...children at play, young skaters, curious tourists, art experts, dancers, architects, media artists, and composers, can play with each other, skate, make investigations, dance, create compositions and choreographies, simply interacting over their countries' borders by means of and within the virtual environments. ...EU-supported project 'Realtime & Presence.' ...The results are sensitive virtual environments, or 'electronic stages,' in which human behaviour is transformed into colours, images, and sounds...The realisation of the First Virtual Square forms the vantage point for the international Project 'GEF – Global European Fields.' This project is designed to connect Dresden's sister cities via public virtual interactive squares by 2006 for Dresden's 800th anniversary. Artists from St. Petersburg, Columbus, Salzburg, Rotterdam Wroclaw, Florence etc can then transfer their audio-visual compositions to the other sister cities." Klaus Nicolai, "Virtual Squares of World Culture in Dresden's European Sister Cities," in *Body Space and Technology* 1, no. 4 (2001), <http://people.brunel.ac.uk/bst/documents/klausnicolai.doc>, (no pagination).

<sup>3</sup> Brenda Laurel, *Computers as Theatre* (Reading, Massachusetts: Addison-Wesley Publishing Company, 1993), 10-15.

Artificial Intelligence (AI) scholar Julian Hilton uses the Globe to explain the importance of imagination to the functioning of theatre and intelligence.<sup>4</sup> He writes:

The theatre is both simulated and real because the actors have to convince the audience that they are real. The theatre has been exploring the representation and simulation of people's behaviour for thousands of years. AI could learn from it. In the theatre art is enabled by technology—by staging, sets, lighting, costumes, effects and so on. It is a complex aesthetic machine. The effectiveness of simulation therefore depends of their imagination of the audience... For Shakespeare and his contemporaries the metaphoric proposition that the world is a stage (theatrum mundi) hardly needed defending. It was clear all human action was played out on a great universal stage, and that men and women were actors in some great play. The Globe Theatre was the globe in microcosm, it was a cipher for representing all knowledge.<sup>5</sup>

But Hilton also dismisses today's theatre itself, as an antiquated form of communication.

Digital Theatre, as described in this work, refutes this claim by involving what is best of both theatrical (human) and digital (computer) communication.

## **Background**

Before describing the methodology of this study in Digital Theater, I would like to give the reader a sense of how I came to my findings and what parameters frame the scope of the performances included in it.

Early in my investigations of theatre mixed with digital technology I encountered the Digital Performance Archive (or DPA).<sup>6</sup> The Digital Performance Archive is an online research database, created through the remarkable combined efforts of the

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<sup>4</sup> Julian Hilton, "Theatricality and Technology: Pygmalion and the Myth of the Intelligent Machine," in *Dialogue and Technology: Art and Knowledge*, edited by Bo Göranson and Magnus Florin, 55-71 (London: Springer-Verlag, 1991). 55.

<sup>5</sup> Hilton, "Theatricality and Technology," 55-57.

<sup>6</sup> The Digital Performance Archive, [http://dpa.ntu.ac.uk/dpa\\_site/](http://dpa.ntu.ac.uk/dpa_site/), (Digital Research Unit of the Department of Visual and Performing Arts at The Nottingham Trent University and the Media and Performance Research Unit, School of Media, Music and Performance at the University of Salford; accessed November 8, 2002).

Nottingham Trent University, the University of Salford, and the Arts and Humanities Research Board. In addition to containing “live” performances which range from dance, theatre, and interactive art installation, the site contains websites, CDs, robotics, and other objects and events.<sup>7</sup> This exceedingly broad scope became problematic when I was unable to limit data in terms of “live” theatre. Given my determination to get at this valuable data, I spent two years sifting through online records, studying the holdings of the DPA and cataloguing my results on a website.<sup>8</sup> It was through my research into the DPA that I realized the great variety of performances that were utilizing digital technology, and this led me to see the pattern of Digital Theatre emerging from many sources, and from the process I began the task of defining the term Digital Theatre in relation to the broader spectrum of digital performance.

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<sup>7</sup> There was minimal effort to make searchable objects of study based on the “liveness” etc as all items were somehow considered performative, categories such as “staged interactions” and “participatory interactions” were not differentiated. “What, then, distinguishes the kind of ‘live human activity’ that performers engage in from the kind that audiences engage in? The simple answer is: performers perform for an audience, while audiences ‘perform’ only for themselves. Whether or not a work of interactive computer art is a ‘performance,’ then, depends on whether it is being performed for an audience. We must distinguish works of interactive computer art in which performers interact with the system while the audience looks on from those in which the audience interacts with the system directly. I will call works in the first category ‘staged interactions,’ and those in the second ‘participatory interactions.’ If we accept ‘performing for an audience’ as the distinguishing characteristic of performance, it follows that all staged interactions are performances, and all participatory interactions are not.” David Z. Saltz, “The Art of Interaction: Interactivity, Performativity, and Computers,” in *The Journal of Aesthetics and Art Criticism* 55, no. 2 (Spring, 1997): 119.

<sup>8</sup> My efforts to search for “theatre” or particular thematic content (often present in individual entries). I became increasingly aware of a great number of items which seemed totally mechanical/technological while others seemed totally “live” using very little technology. Many lacked a sense of community performance as they were CD-ROMs to be viewed by individuals alone at their computers, or were staged before an audience but lacked human performers (in the case of animatronics displays, robot fights, or online Flash animations). Alternatively, others were “live” stage shows which mentioned computers but gave no significant sign of using technology in their presentation before their in-house audience. The inability to refine one’s search to a dependable list of terms with standards applied uniformly across all entries, led me to a thorough two year investigation of the contents (both cloned and live external links) via the A-Z collaborators list. To this manual search I carefully applied limits, (defined later as “liveness,” digital technology, interactivity, and story/spoken words) and examined the distinctions between categories in my own research website. Nadja Masura, “The Search for Digital Theatre,” <http://www.digthetcom>. This would allow me to find and chart examples which were both digital and “live” theatre.

The four categories that I used to sort items in relation to Digital Theatre were (and remain):

- 1) **“Liveness” or Co-presence:**<sup>9</sup> It is a “live” performance placing at least some performers in the same shared physical space with an audience.<sup>10</sup> A brief clarification of these terms in relation to Digital Theatre is in order. The significance of the terms “live” or “liveness” as they occur in theatre can not be over-emphasized, as it is set in opposition to digital in order to indicate the presence of both types of communication, human and computer created. Rather than considering the real-time or temporality of events, I am interested in the interactions of people (audience and actors) sharing the same physical space (in at least one location, if multiple audiences exist). It is essential that a sharing of public space occurs at the site of the primary artistic event.
- 2) **Digitally Enabled:** The next necessary condition for creating Digital Theatre is the presence of digital media in the performance. The performance must use digital technology as an essential part of the primary artistic event (not solely for archival or broadcast purposes).<sup>11</sup> Digital media is not defined through the presence of one type of technology hardware or software configuration, but by its characteristics of being flexible, mutable, easily adapted, and able to be processed in real-time. It is the ability to change not only sound and light, but also images, video, animation, and other content into triggered, manipulated, and reconstituted data which is relayed or transmitted in relationship to other impulses which defines the essential nature of the digital format. Digital information has the quality of pure computational potential, which can be seen as parallel to the potential of human imagination.

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<sup>9</sup> While TV studio audiences may feel that they are at a public “live” performance, these performances are often edited and remixed for the benefit of their intended primary audience, the home audiences which are viewing the mass broadcast in private. Broadcasts of “Great Performances” by PBS and other theatrical events broadcasted into private homes, give the TV viewers the sense that they are secondary viewers of a primary “live” event. In addition, archival or real-time web-casts which do not generate feedback influencing the “live” performances are not within the range of Digital Theatre. In each case, a visible interface such as TV or monitor screen, like a camera frames and interprets the original event for the viewers.

<sup>10</sup> I would suggest a minimal audience of two or more is needed to keep a performance from being a conversation between parties. If additional online or mediated audiences exist, only one site need have a co-present audience/performer situation. See Rachel Zerihan, “Intimate Inter-actions: Returning to the Body in One to One Performance,” *Body Space and Technology* 6 (2006), <http://people.brunel.ac.uk/bst/vol06/rachelzerihan/zerihan.pdf>, (no pagination). “While Grotowski has stated that it takes one spectator to make a performance, theatre productions generally seek a much larger audience.” Bennett, *Theatre Audiences*, 140.

<sup>11</sup> Digital technology may be used to create, manipulate or influence content. However, the use of technology for transmission or archiving does not constitute a performance of Digital Theatre.

- 3) **Limited Interactivity (or Participation):**<sup>12</sup> The performance contains only limited levels of interactivity, in that its content is shaped primarily by the artist(s) for an audience.<sup>13</sup> While interactivity can apply to both the interaction between humans and machines and between humans, I will be primarily concerned with the levels of interactivity occurring between audience and performers (as it is facilitated through technology). Interactivity is defined as “existing in the relay of a message, in which the third or subsequent message refers back to the first.”<sup>14</sup> This indicates an asymmetrical flow of information, rather than an equal exchange. In order to clarify that interactivity is not being used in terms of a computer’s ability to react to a variety of input, but to indicate the level of participation of audience members in creating the total artistic project, I will be using the word participation in the paper to suggest that messages flow primarily from performers to the audience.
- 4) **Spoken or Language Content:**<sup>15</sup> The performance’s content should contain either spoken language or text which might constitute a narrative or story, differentiating it from other events which are distinctly dance, art or music.

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<sup>12</sup> An example of this is the case of internet chat which becomes the main text of be read or physically interpreted by performers on stage. Online input including content and directions can also have an effect of influencing “live” performance beyond the ability of “live” co-present audiences. It is in this type of interactivity, similar to other types of heightened audience participation, that the roles of message sender and receiver can dissolve to that of equal conversers, causing theatre to dissipate into conversation. The term “interactive” refers to any mutually or reciprocally active communication, whether it be a human-human or a human-machine communication. However, for purposes of clarification, I will specify digital interactivity when indicating computer-human interaction.

<sup>13</sup> Though some of the content may be formed or manipulated by both groups, the flow of information is primarily from message creator or sender to receiver, thus maintaining the roles of author/performer and audience (rather than dissolving those roles into equal participants in a conversation). This also excludes gaming or VR environments in which the (usually isolated) participant is the director of the action which his actions drive.

<sup>14</sup> Interactivity is more than choices on a navigation menu, low levels of participation or getting a desired response to a request. Sheizaf Rafaeli defines it as existing in the relay of a message, in which the third or subsequent message refers back to the first. “Formally stated, interactivity is an expression of the extent that in a given series of communication exchanges, any third (or later) transmission (or message) is related to the degree to which previous exchanges referred to even earlier transmissions.” Shezaf Rafaeli, “Interactivity, From New Media to Communication,” In *Advanced Communicational Science: Merging Mass and Interpersonal Processes*, Robert P. Hawkins, John M. Wiemann, and Suzanne Pingree, eds. 110-134, (Newbury Park: Sage Publications, 1988), 111.

<sup>15</sup> The criteria of having narrative (in non-technical terms, no matter what the context—whether it be scientific, philosophical, legal, etc. —a narrative is a story) content through spoken language or text as part of the theatrical event is meant not to limit the range of what is already considered standard theatre (as there are examples like Beckett in which the limits of verbal expression are tested), but to differentiate between that which is Digital Theatre and the currently more developed fields of Digital Dance (such as the stunning visual media dance concerts like *Ghostcatching* by Merce Cunningham and Riverbed.) Riverbed, “Ghostcatching,” Available from the World Wide Web in the Digital Performance Archive: [http://dpa.ntu.ac.uk/dpa\\_search/result.php3?Project=67](http://dpa.ntu.ac.uk/dpa_search/result.php3?Project=67); and Merce Cunningham, “Merce Cunningham Dance,” Available from the World Wide Web: <http://www.merce.org/home.html>; and Isabel C. Valverde, “Catching Ghosts in Ghostcatching: Choreographing Gender and Race in Riverbed/Bill T. Jones’ Virtual

Thus Digital Theatre can be defined as demonstrating synthesis of coexistence of “live” performers and co-present audience with digital media in a manner which contains spoken words or narrative elements and limited interactivity/participation, thus retaining at least limited distinctions of performer/audience (or message sender and receiver) roles. Digital Theatre utilizes both the strengths of human connection found between “live” performers and their co-present audience, and the flexibility and global reach of digitally processed data.

It remains my hope that criteria or limiting parameters are flexible and permeable enough to allow for a wide range of theatrical activities while refining the scope of events to those which most resemble the hybrid form of “live” and mediated theatre, a subset of digital performance.

At the center of this definition is the idea of “liveness” or co-presence co-existing “onstage” with digital technology. This once hotly debated theoretical term remains the acknowledged core of digital performance praxis, as practicing theorizing performers depend on the “live” and media distinction to describe the process of bringing the two forms together on stage.<sup>16</sup> “Liveness,” as used in this work, indicates living bodies

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Dance,” Available from the World Wide Web: <http://www.wac.ucla.edu/extensionsjournal/v2/pdf/valverde.pdf>.) and Art Technology. (Such as telematic pieces: “Telematic Dreaming” by Paul Sermon in which distant participants shared a bed through mixing projected video streams. Paul Sermon, “Telematic Dreaming,” Available from the World Wide Web: <http://www.hgb-eipzig.de/~sermon/dream/>.) This is necessary because of the mutability between art forms utilizing technology. It is also meant to suggest a wide range of works including dance theatre involving technology and spoken words such as Troika Ranch’s *The Chemical Wedding of Christian Rosenkreutz* (Troika Ranch, 2000), to the creation of original text-based works online by performers like the Plain Text Players or collaborations such as Art Grid’s *Interplay: Hallucinations*, to pre-scripted works such as the classics (*Midsummer Night’s Dream*, *The Tempest*) staged with technology at the University of Kansas and the University of Georgia.

<sup>16</sup> Philip Auslander, “Ontology vs. History: Making Distinctions Between the Live and the Mediatized,” <http://webcast.gatech.edu/papers/arch/Auslander.html>; “Some critics debate this premise. Philip Auslander, for example, in his book *Liveness: Performance in a Mediatized Culture* explicitly critiques as sentimental the notion that performance remains the domain of the live, that intimacy and immediacy are possible there in ways unavailable in other media, such as film or television....Auslander



gathered in space (rather than real-time), and remains a central aspect of theatre.<sup>17</sup>

Perhaps the authors of *Intermediality in Theatre and Performance*, deal with this issue of “liveness” for the sake of determining hybridity:

...media objects have a different ontology from non-digital media objects on the stage, so there is an empirical and qualitative difference between the digital and non-digital objects operative in the stage space. Thus, digitization plays a part in conceptualising the changing space of theatre performance. It creates junction points where the different media meet and it is there — at the point of their meeting — that we locate intermediality in theatre and performance, which in turn triggers a response in the observer...A crucial element of digital media structures is hypermedia.<sup>18</sup>

In another essay in the same critical work, Sigrid Merx comments on the effect of video (which can be a form of digital media) within theatre. She says that to her, the greatest potential of live video in live performance is to instill an awareness of the liveness of theatre in the audience, and that live video in the live performance can remind us of the

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believes these terms set up a false binary between live and mediatized performance, one he very persuasively proves doesn't exist...But I must admit that I believe in all the things that Auslander disparages, mostly because as a onetime actor and sometime director, and as a writer, spectator, critic, and performance theorist, I've experienced them all. I've felt the magic of theater; I've been moved by the palpable energy that performances that work generate; and I've witnessed the potential of the temporary communities formed when groups of people gather to see other people labor in present, continuous time, time in which something can always go wrong. But Auslander argues 'against the idea that live performance itself somehow generates whatever sense of community one may experience...performance makes just as effective a focal point for the gathering of a social group as live performance.' Surely any gathering can promote community." Quote by Jill Dolan, *Utopia in Performance: Finding Hope at the Theater* (Ann Arbor: University of Michigan Press, 2005), 40-41; Praxis: "For nearly two decades, performers have been engaging in digitally mediated performance practices. Though performance theorists have been debating the ontological status of performance that relies on digital and information technologies, practitioners have carried on without waiting for a scholarly verdict." Marcyrose Chvasta, "Remembering Praxis: Performance in the Digital Age," *Text and Performance Quarterly* 25, no. 2 (April 2005): 156.

<sup>17</sup> "theatre .. being seen as the traditionally accepted holder of the concept of *live performance*." Freda Chapple, and Chiel Kattenbelt, "Key Issues in Intermediality in Theatre and Performance," in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 11-25 (Amsterdam and New York: Rodopi, 2006), 15.

<sup>18</sup> Freda Chapple, and Chiel Kattenbelt, "Key Issues in Intermediality in Theatre and Performance," 18.

fact that “this is live,” “this is now.”<sup>19</sup> Essentially, live video has the potential to make us remember that we are in the theatre.

Peter M. Boenisch suggests that theatre can perform media:

This trace of theatrical mediation is produced in the observers’ perception alone: the actor on stage is no longer the actor, but the actor exposed on stage. That photo becomes a photo placed on stage and strangely different from the very same photo hanging stored back-stage before the show, not to mention my screensaver version of it. That video projected on stage is no longer the same as the very same tape I watched at home. As opposed to the digital transcoding into bits and bytes, theatre leaves the thing itself intact, yet the actor, picture, and tape, at the same time, are theatrically reproduced into something beyond their mere (even less: *pure*) original presence. They become signs representing a character, or any fictional world and, at the same time, they are always also something presented on stage, something presented to someone, and that is — far more essential than any represented meaning — the quintessential function of a sign. As a primarily semiotic practice, theatre turns all objects into signs to be/perceived. Compared with other media that transmit objects to another space and/or another time, or store them to make worlds out of them there and then, theatre processes these objects into worlds here and now, while simultaneously leaving them as they are...Any theatrical performance, thus, negotiates a multiple range of potential perspectives to be observed.<sup>20</sup>

Why is it so essential that “live” flesh be set against the digital? To demonstrate their *différance*.<sup>21</sup> To better understand the difference between the body (the ultimate physical manifestation of analogue and tactile human experience) and digital, I will provide some descriptions of what it is to be digital. Digital as been described as both

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<sup>19</sup> Sigrid Merx, “*Swann’s Way*: Video and Theatre as an Intermedial Stage for the Representation of Time,” in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 67-80 (Amsterdam and New York: Rodopi, 2006), 78.

<sup>20</sup> Peter M. Boenisch, “Aesthetic Art to Aesthetic Act: Theatre, Media, Intermedial Performance,” in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 103-116 (Amsterdam and New York: Rodopi, 2006), 114.

<sup>21</sup> I will define Jacques Derrida’s term in detail later on page 34.

protean and indifferent.<sup>22</sup> Digitization allows for the manipulation and interchangeability of data. Author Vivian Sobchack writes, “What is historically and technologically novel about digitization is precisely its unique capacity to translate all other media representation into a homogeneous algorithmic mode of expression; nonetheless, we have come to recognize that digital representations are extraordinarily heterogeneous in form, diverse in function, and specific in practice.”<sup>23</sup>

On the surface the body of the performer and digital information could not be more different. But as Peter M. Boenisch points out, Theatre (an art of synthesis) and Computers both involve multiple media.<sup>24</sup> Likewise human bodies are carriers of information.<sup>25</sup>

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<sup>22</sup> “Digital manipulations allow color film, with its verisimilitude and illusion of three dimensions, to assume the fluid state of plasma, challenging cinema’s basic ontology and returning it to a seemingly previous state....” Matthew Solomon, “Twenty-Five Heads under One Hat: Quick-Change in the 1890s,” in *Meta Morphing: Visual Transformation and the Culture of Quick-Change*, edited by Vivian Sobchack, 3-20 (Minneapolis and London: University of Minnesota Press, 2000), 17. The *protean element*, for the myth of Proteus...is based, of course, upon the omnipotence of plasma, which contains in ‘liquid’ form all possibilities of future species and forms. “Zeros and ones are utterly indiscriminate recognizing non of the old boundaries between passages and channels of communication.” Sadie Plant, *Zeroes and Ones: Digital Women and the New Technoculture* (New York: Doubleday, 1997), 185.

<sup>23</sup> Vivian Sobchack, “Introduction,” in *Meta Morphing: Visual Transformation and the Culture of Quick-Change*, edited by Vivian Sobchack, xi-xxiii (Minneapolis and London: University of Minnesota Press, 2000), xiv.

<sup>24</sup> “For that reason, many describe the computer as a ‘meta’-medium, which absorbs other media in its numerical logic of zeroes and ones. Theatre offers what appears at first sight an ability to soak up and trans-code other media. It combines texts, sounds, bodies, language, imagery, various visual and other sign systems in ever-new mixtures to create ever-new performances. The effects on these media remediated in theatrical performance, however, could not be more different from I their digital trans-coding: While computers indifferently digest any other medium in their giga-byte stomach of the microprocessor, theatre apparently very generously provides the stage to other media entirely according to their will. Theatre behaves as a fully transparent medium, a remarkable camera lucida, without any palpable fingerprints of its mediatization stamped on the primary media it relies on so heavily.” Boenisch, “Aesthetic Art to Aesthetic Act,” 112.

<sup>25</sup> “Every living being is built from an exchange of information and this exchange can just as easily be nongenetic as genetic. The living is a dynamic flow of information, and this flow also exists in the nonorganic realm.” Ollivier Dyens, *Metal and Flesh: The Evolution of Man: Technology Takes Over*, translated by Evan J. Bibbee and Ollivier Dyens (Cambridge and London: The MIT Press, 2001), 13.

The essential nature of digital media is its flexibility and its mutability. In researching and writing about productions using various combinations of hardware and software tools to gather impulses (ideas, triggers, stimulus, expressions, artforms); then translate, shape and manipulate this data information; and finally export (via projection, sound, etc) media as an observable and essential part of the production's total theatrical experience—what is abundantly clear is that “digital” implies changeability and flux. Digital is a state of potential; it is a mixing between mediums. One could say that the liminal state of being converted to digital data, translates between observable forms and purely potential impulses. Because the protean nature of digitization mutates idea information into new forms (neither purely art, music, visual, etc., but potentially mixes between them), and most every Digital Theatre production mentioned in this work contains multiple uses of digital media (animation, triggered sound or video, Internet broadcast, etc), it follows that my format should parallel its content and allow for transitions between subjects. Through transitional sections which stand between chapters, I will blend between themes.

Digital Theatre as a term can relate to performances which utilize a large range of technologies and their multiple uses, including but not limited to: digital video, digital projection, animated sets and characters, virtual reality, digital robotics, online writing and real-time audience feedback, interactive content creation, motion capturing, motion triggering, web and video conferencing, and many other forms of digital media interplay. Examples might include using projected elements with “live” actors including animated sets, motion triggering controlled by performers to cue video or sound media, or online performances occurring between performers at locations in different rooms, states, or

countries. They may even mix many of these elements together in one transformative wired event.

When I first began researching and writing about Digital Theatre five years ago, there were several similar terms being used, but ‘digital theatre’ was not in common use. Since then, the term has been seen with more frequency describing theatrical performances which are both live and mediated by practitioners described in this work.<sup>26</sup> Digital Theatre does not exist in a vacuum but in relation to other terminology. It is a type of digital performance and may accommodate many types of “live”/mediated theatre including “VR Theatre”<sup>27</sup> and “Computer Theatre,”<sup>28</sup> both of which involve specific types of computer media, “live” performers, story/words, and limited levels of interactivity. However terms such as “Desktop Theatre,” using animated computer avatars in online chat-rooms without co-present audiences falls outside Digital Theatre into the larger category of digital performance.<sup>29</sup> Likewise, Digital Dance may fall

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<sup>26</sup> Such as the Gertrude Stein Repertory Theatre. See Cheryl Faver, and John Reaves, “The Making of Americans,” Gertrude Stein Repertory Theatre website, <http://www.gertstein.org/project1.html>. (Accessed December, 2003).

<sup>27</sup> Mark Reaney, head of the Virtual Reality Theatre Lab at the University of Kansas, investigates the use of virtual reality (“and related technologies”) in theatre. “VR Theatre” is one form or subset of Digital Theatre focusing on utilizing virtual reality immersion in mutual concession with traditional theatre practices (actors, directors, plays, a theatre environment). The group uses image projection and stereoscopic sets as their primary area of digital investigation.

<sup>28</sup> Another example of Digital Theatre is Computer Theatre, as defined by Claudio Pinhanez in his work *Computer Theatre* (in which he also gives the definition of “hyper-actor” as an actor whose expressive capabilities are extended through the use of technologies). “Computer Theatre, in my view, is about providing means to enhance the artistic possibilities and experiences of professional and amateur actors, or of audiences clearly engaged in a representational role in a performance.” Claudio S. Pinhanez, “Computer Theater,” (Cambridge: Perceptual Computing Group -- MIT Media Laboratory, May 1996) (under revision), 2. Pinhanez also saw this technology being explored more through dance than theatre. Claudio S. Pinhanez, “Computer Theater,” 2. As suggested by his writing and shown in his productions of I/IT, “Computer Theatre” is Digital Theatre.

<sup>29</sup> On the far end of the spectrum, outside of the parameters of Digital Theatre, are what are called Desktop Theater and Virtual Theatre. These are digital performances or media events which are created and presented on computers utilizing intelligent agents or synthetic characters, called avatars. Often these

outside the parameters of Digital Theatre, if it does not contain elements of story or spoken words. Additional relative terms include “Cyborg Theatre,” “Cyber theatre,”<sup>30</sup> “Digitally Mediated Performance,” “Intermediality,” and “Virtual Theatre.”<sup>31</sup>

One close relative of the term “Digital Theatre” is Jennifer Parker-Starbuck’s term “Cyborg Theatre” which also requires a theatre event to contain “live” and mediated (by which she means both digital and non-digital video) elements. However, Parker-Starbuck’s dissertation explores her term as it qualitatively expresses an essence of being cyborg or more than human through media. In her conclusion, she omitted some events which would qualify as Digital Theatre because they did not meet her criteria of strengthening a sense of human hybridity. It is my intention to leave the term Digital Theatre open for use by others to describe a wide range of theatrical events (within the given parameters), whether or not these future examples please my sensibilities or further

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are interactive computer programs or online conversations. Without human actors, or group audiences, these works are computer multimedia interfaces allowing a user to play at the roles of theatre rather than being theatre. Virtual Theatre is defined by the Virtual Theatre Project at Stanford on their website as a project which “aims to provide a multimedia environment in which user can play all of the creative roles associated with producing and performing plays and stories in an improvisational theatre company.” Barbara Hayes-Roth, Director, “The Virtual Theatre Project,” Stanford University, <http://www-ksl.stanford.edu/projects/cait/>.

<sup>30</sup> “Cyber theatre, not unlike film and television does not rely on the presence of a live actor or audience and an argument can be made that many examples of cyber theatre might be better described as interactive film/TV, installation art, new media art, or electronic communications. A major theoretical question is posed by these new forms: is it necessary that some live element be present in the performance of cyber theatre to make theatre a useful model? Theatre artists, but also artists working in areas of installations, video and art, and digital technologies, are undertaking the practice of cyber theatre.” Dennis Kennedy, ed. *The Oxford Encyclopedia of Theatre and Performance*. Vol. 1, A-M. Oxford: Oxford University Press, 2003), 341.

<sup>31</sup> “The Virtual Theatre. This theatre will consist of a single audience member putting on a headset and experiencing a virtual presentation. This will be considerably useful for theatre history classes because it puts theatre in context.” Dan Zellner, “Definitions and Directions of the Theatre,” in *Theatre in Cyberspace: Issues of Teaching, Acting, and Directing*, edited by Stephen A. Schrum, 19-29 (New York: Peter Lang Publishing, 1999), 27.

all of my concepts of Body, Place, and Community.<sup>32</sup> Digitally Mediated Performance refers to a wide range of performance modes involving digital media and may not have co-present audiences: "...if the DMP had no live audience to begin with other than the performers and producers on-site during its creation..."<sup>33</sup> Intermediality contains a broad mixing of media forms (digital and analogue including puppetry, sound, photography, etc). Freda Chapple, and Chiel Kattenbelt state:

...intermediality includes within its constituent elements a blend of the art forms of theatre, film, television and digital media, which lead to an engagement with theoretical frameworks drawn from selected areas of performance, perception and media theories, and philosophical approaches to performance...theatre is a hypermedium that incorporates all arts and media of intermediality...intermediality is an effect performed in-between mediality, supplying multiple perspectives and the making of meaning by the receivers of the performance.<sup>34</sup>

Perhaps the most compelling related term is "Enhanced Theatre" which featured practitioner Dan Zellner defines, saying, "This theatre will consist of virtual sets, live actors, and virtual actors. Audience will come to the theatre and see new creations and new interpretations of classics."<sup>35</sup>

At this point I do not see my primary duty as being the definition or explication of the term, but to establish Digital Theatre as a movement through a historically and theoretically contextualized survey.

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<sup>32</sup> Jennifer Parker-Starbuck, "Cyborg Theatre: Corporeal/Technological Intersections in Multimedia," PhD diss, City University of New York, 2003.

<sup>33</sup> Marcyrose Chvasta, "Remembering Praxis: Performance in the Digital Age," *Text and Performance Quarterly* 25, no. 2 (April 2005): 164.

<sup>34</sup> Freda Chapple, and Chiel Kattenbelt, "Key Issues in Intermediality in Theatre and Performance," in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 11-25 (Amsterdam and New York: Rodopi, 2006), 20.

<sup>35</sup> Zellner, "Definitions and Directions of the Theatre," 27.

## **Methodology and Scope**

I believe that through providing semi-permeable boundaries for Digital Theatre's definition and revealing the connections to past theatrical art forms, many seemingly isolated or disparate examples can be drawn together into a larger movement (or type of theatre), one with great potential and relevance for reaching today's computer and media savvy audiences.

What I mean by suggesting that I have approached these performances as part of historically and theoretically contextualized survey is to indicate that I see value in not only describing performances as a breadth of related Digital Theatre works, but putting them in the context of theatre's continuing tradition of utilizing new technologies to enhance stage spectacle and communicate ideas. In addition these performances are considered in terms of current theory relating to the concepts of body, place, and community.

It has been brought to my attention that many of the examples in this work are experimental, and it's true that the range of performances included spans works from demonstrations of Digital Theatre ideas and techniques (in staged monologues and the like) to fully mounted theatrical productions. The reason for this broad selection, is that there is no one ideal example of what Digital Theatre is, instead the sum total of these works demonstrates the reach and potential value of Digital Theatre. At this point, Digital Theatre is the total of these possibilities. It would be presumptuous of me to select one model, (since there are so many theatrical models in existence and so many technologized variations). I present the examples, ideas, and techniques they utilize to



the reader, in the hope that they inspire new work that might someday be considered a more complete work of Digital Theatre.

The scope of this inquiry is directly confined to the criteria of Digital Theatre, a movement which has been flourishing internationally for more almost two decades.<sup>36</sup> Though there are examples of media integration and satellite broadcast dating back into the 1970s, this study will primarily examine works occurring from the 1990s on, a period coinciding with the PC/Internet boom and the rise of public digital literacy.

In the early 1980s, video, satellites, fax machines, and other communications equipment began to be used as methods of creating art and performance.<sup>37</sup> John Cage and the group Fluxus were among the early leaders in expanding what was considered art, technology, and performance. With the adaptation of personal computers in the 1980s, new possibilities for creating performance communications was born. Artists like Sherrie Rabinowitz and Kit Galloway began to transition from earlier, more costly experiments with satellite transmission to experiments with the developing Internet. Online communities such as “The Well” and interactive writing offered new models for artistic creativity. With the “Dot Com” boom of the 1990s, telematic artists including Roy Ascott began to take on greater significance as theatre groups like George Coates Performance Works and Gertrude Stein Repertory Theatre established partnerships with

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<sup>36</sup> “Since the early 1990s, performers in the United Kingdom have been producing DMP—or, in the terms of performance archivist Barry Smith, taking ‘dramatic forays into IT’—despite the fact that many performance artists in academia were faithful to the notion that performance is executed only by ‘live’ bodies. The bias against DMP still exists, Smith notes, but he argues that perceptions are changing, for IT.” Marcyrose Chvasta, “Remembering Praxis: Performance in the Digital Age,” *Text and Performance Quarterly* 25, no. 2 (April 2005): 161.

<sup>37</sup> For more information, see Randall Packer and Ken Jordan, editors, *Multimedia: From Wagner to Virtual Reality* (New York and London: W.W. Norton and Company, 2001); Eduardo Kac, *Telepresence and Bio Art: Networking Humans, Rabbits, and Robots* (Ann Arbor: University of Michigan Press, 2005); and Gabriella Giannachi, *Virtual Theatres: An Introduction* (London: Routledge, 2004).

software and hardware companies encouraged by the technology boom. Researchers such as Claudio Pinanhez at MIT, David Saltz of The Interactive Performance Laboratory at the University of Georgia, and Mark Reaney head of the Virtual Reality Theatre Lab at the University of Kansas, as well as significant dance technology partnerships (including Riverbed and Riverbed's work with Merce Cunningham) led to an unprecedented expansion in the use of digital technology in creating media-rich performances (including the use of motion capture, 3D animation, and virtual reality). It is these boom days which are captured in the Digital Performance Archive, an online research database which provides information on digital performances from multiple countries from 1990 to 2000. It is time to look at these and other performances in relationship to each other, mapping out a larger tradition.

### **Historical Legacy**

Because the history of digital performance is so recent, I will be looking toward the past to give context to our developing present.<sup>38</sup> Through acknowledging aesthetic ties to theatrical precursors exploring similar theatrical effects through the technologies of their day, Digital Theatre becomes part of the tradition of theatrical innovation.

Early use of mechanical and projection devices for theatrical entertainments have a long history tracing back to mechanicals of ancient Greece and medieval magic lanterns. But the most significant precursors of Digital Theatre can be seen in the works

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<sup>38</sup> "Theatre is an ancient craft with a set of time-honored traditions. The art and practice of theatre is rooted in performances that we can trace back over two thousand years to classical Greece. The proscenium theatre dates back more than four centuries; the production hierarchy was established almost a hundred years ago and methods of rehearsing and preparing actors are decades old. The personal computer has been around for less than 20 years, but computers have had an astonishing impact in virtually every aspect of theatre." Patrick Finelli, "Computer Technology for Theatre: The Next Ten Years," Pre-publication Draft, "Product Reviews: Ten Ways Technology Will Change in Theatre," 1998, <http://www.connectedcourseware.com/ccweb/prodrevs/10ways>

of the early 20<sup>th</sup> century. It is in the ideas of artists including Edward Gordon Craig, Erwin Piscator, Josef Svoboda, and the Bauhaus and Futurists movements that we can see the strongest connections between today's use of digital media and live actors. In their ideas we also see earlier, experimental theatrical use of non-human actors, broadcast technology, and filmic projections. But similarities can also be seen in the spectacle of transforming place in Italianate scenery, and other physical staging methods. In their time Craig, Svoboda, and Walter Gropius supported the integration of new use of new technology in theatre.<sup>39</sup> Oskar Schlemmer states, "The theater, which should be the image of our time and perhaps the one art form most peculiarly conditioned by it, must not ignore these signs."<sup>40</sup>

Like me, noted digital performance scholar Scott deLahunta believes that there need not be a conceptual break between considering old and new methods of achieving similar effects. He writes:

Going even further back, the phenomenon of 'telepresence' and 'instantaneous remote communication' was initiated by the first telegraphic transmission in 1845, something easily forgotten as we respond to the excitement generated around e-mail. These are just some examples of the ways in which the past can be connected with the present—and complicate this tendency towards a separation between 'old' and 'new'...In technological terms, 'old' usually refers to analog and 'new' to digital technologies...Suffice it to say: *Our tools shape us as we shape them.*<sup>41</sup>

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<sup>39</sup> Craig said that good theatre is achieved "Not by rejecting electricity because of its defects: not by returning to tallow candles: not by returning to masks: by avoidance of nothing, by returning to nothing — but by this process...By reviewing all the theatrical things known of or once known of as serviceable to the stage...test whether or no they are capable of expression. That and little else. We must ask ourselves — Does a wax candle serve us to express the rising sun? — If yes, then use it. Does it not serve?" Edward Gordon Craig, "Towards a New Theater — Craig on his Screens," in *Edward Gordon Craig: A Vision of Theatre* by Christopher Innes. Ontario: York University, 1998), 274-5.

<sup>40</sup> Oskar Schlemmer, "Man and Art Figure," in *The Theater of the Bauhaus*, edited by Walter Gropius, and Arthur S. Wensinger, 17-46 (Baltimore: The Johns Hopkins University Press, 1961), 18.

<sup>41</sup> Scott deLahunta, "Speculative Paper: Theater/ Dance and New Media and Information Technologies," written and presented to the Working Groups on Dance and Drama, Research Group on

How then do we join past to present, and gather examples from multiple times and places which inform this developing art form? For this work the answer lies in observing aesthetic similarities in the treatment of body, place, and community.

### **Theory: Body, Place, and Community**

These three concepts (body, place and community) each affected by today's digital staging practices, are perhaps the central aspects of theatre (over-simplified as the performer, stage, audience) and of life.

To discuss the ideas of body, place, and community, I will be enlisting various theoretical concepts including: embodiment and observation of the "other" to define self, the neo-Bakhtinian rebellious body defiant of the Sadian mass media image-body. Terms such as "liveness," différance, and agency are employed to tease out paths of meaning from the technologized body of the actor or the actor faced with his digital other. Issues of place, landscape, and space help unravel expectations of public and private in relation to the body and performance locations. Community is explored in terms of online venues (or computer mediated communications), which simultaneously create perceived place (cyber-place) through telematics and telepresence performer and audience participation. Some ideas explored will be utopia, communitas, devising, play, interactivity/ participation, and issues of co-presence. Digital Theatre has the power to challenge our assumptions about the borders between body, place, and community, and thus extend them in our consciousness.

In my initial chapter, **Body and Its Digital Other**, I will be talking about "live" human performers performing with their video other (*Jet Lag*), animated, AI and robotic

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Reorganisation of Professional Arts Education, Amsterdam, April 1998, <http://www.art.net/resources/dtz/scott3.html>.

others (performances by Yacov Sharir, *The Tempest*, *Dinosaurus*, *Blue Bloodshot Flowers*), use of screens and projectionist costuming (in *The Magic Flute* and the Gertrude Stein Repertory Theatre's *Making of Americans*). Next, in **Body Places**, the performer's body becomes the place of performance (Stellarc, *Hollowman*, *Minimally Invasive*). In **Performer's Body Extended**, I will be addressing the performer's ability to shape their media environment through motion tracking-triggering-and-sensing technology, (Troika Ranch, *L'Universe*, *The Tempest*, and *The Magic Flute*). In **Digital Illusionary Place** I will demonstrate how digital technology fulfills a continuing desire to see places transform on stage (*The Magic Flute*), and create visions of new types of place such as cyberspace (*Midsummer Night's Dream* and *Alladeen*). In **Performance Places**, I discuss how Digital technology's effect on performance places includes: portability (studioZ), site specific performance (Talking Birds – *Undercurrents*, *Blind Messengers*), Intelligent spaces (Arizona State University, and *Kaspar*), linked places (*Beckett Space* and *Interplay* at Utah). In **Performance and Community in Cyberplace**, I discuss how perceived place is expanded through telematic and multi-site performances, and how community and multi-layered place are mutually formed in online performance (*FIRT(ive) Encounter*, *UBU Project*, *World Wide Simultaneous Dance*, ArtGrid and *Interplay*). Lastly, in **Audience Participation and Creative Community**, I describe ways in which online and other interactive audiences become participants as authors and commentators (*Crazy Wisdom Sho*, *Living Newspaper*), audio and media providers (*M@ggie's Love Bytes*) and therefore members of the creative community, often multiplying (ArtGrid) and complicating (the use of virtual reality, *Wings*) the idea of audience. Finally, in my conclusion I return to the idea of old/new, discuss praxis and

digital objects, give a short summary, and end with closing remarks on the value of Digital Theatre in a global community.

The goal of this work is to describe Digital Theatre through the gathered examples, as a growing movement and an art form uniquely suited to our current digital sensibilities which both challenges and retains the essential theatre qualities of public human connection, imaginative thought, and idea transmission. Digital Theatre extends our understanding of central concepts of body, place, and community, creating new ideas and new opportunities for creative communication and human connection. The use of digital technologies in “live” performance can reshape our understandings of fundamental theatrical and social concepts.

In these productions, visual and perceptual boundaries blur between illusion and reality in compelling new ways. Digital Theatre gives us the ability to stir the space of spectacle, extending illusion and often merging the body of the performer into the playing space and set. It creates the interplay between theatrical roles; between performers and audience and it offers a sense of networked or even global place and creates connections between people. As a theatrical form developing in a liminal space of creativity poised between disciplines and techniques, Digital Theatre offers us a new way to embody the theoretical and social concerns of our world. Through aesthetically incorporating digital media in processes of artistic questioning, we can take moral ownership of the technology which shapes our mediated lives.

Digital Theatre is a hybrid art form of great potential, gaining strength from theatre’s ability to facilitate imagination and create human connections, and digital technology’s ability extend the reach of communication and visualization. The dual

presence of the “live” actor and mediated digital elements creates performance events which allow us to better understand, respond to, and shape our changing world, both on stage and beyond the theatre building.

## Chapter 2. Body and Its Digital Other

*It is the material body that thus permits the virtual; it is the necessary and essential condition of experiencing the virtual. Embodiment provides the ground of virtual experience - not only in the basic sense that we use our hands and eyes to see the screen and use the keyboard, but also in the way we construct alternate identities, and perceive of virtual communities as places - our embodied experiences circumscribe the parameters of those perceptions and identities. Today, our increasing remote control of the world - what we call telepresence or telematics - indicates a need to rearticulate what it means to have a body, and the perceptual limits of that body. i.e. the 'corporeal schema' of the body is perhaps changing according to the perceptual augmentations provided to us by new technologies.<sup>1</sup> ~Ingrid Richardson and Carly Harper*

Theatre is about an actor's body, on a stage (in a place), before an audience (a temporary community and portion of a larger community). Thus I shall begin my discussion of Digital Theatre's extension of body, place and community with this essential aspect: the body of the performer.

Everyone has a body. This may seem trivial, but it is not. We live in an age in great need for common points of understanding. As our economies are increasingly tied through global exchange and our cultures are heavily influenced by the Mass Media driven global market, individuals and segments of the human race have a greater likelihood of interacting and influencing each other, and yet many individuals feel isolated. Noted media scholar, Hannah Arendt wrote, "What makes mass society so difficult to bear is not the number of people involved, or at least not primarily, but the fact that the world between them has lost its power to gather them together, to relate and

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<sup>1</sup> Ingrid Richardson, and Carly Harper, "Corporeal Virtuality: The Impossibility of a Fleshless Ontology," *Body Space and Technology* 2, no. 2 (2002), <http://www.mcc.murdoch.edu.au/ReadingRoom/VID/corporeal.html>, (no pagination).



to separate them.”<sup>2</sup> Arendt noted that individuals are “all imprisoned in the subjectivity of their own singular experience.”<sup>3</sup>

As we enter a global age, the body has the potential to serve as a sign across geographies and cultures. We are also entering an age where the essential nature of the human body potentially risks being displaced through technology. We are entering upon the frontiers of cyber-intelligence (Artificial Intelligence and Networked Consciousness), and the Cyborg (body/machine hybrids). As the dispersal of information and ideas increases, the meaning and boundaries of the body become less certain. The global economy can lead to a devaluing of the human body.

Digital Theatre provides a sense dialogue between the individual body and that of the other; it is through the actor on stage that we reflect upon and begin to know aspects of our selves (in contrast or in parallel with what we observe).<sup>4</sup> The other bodies present in the audience create a temporary social contract while involving digital media, creating a digital other to better help us conceptualize ourselves in relation to our evolving computerized lives.

This chapter focuses on the body of the actor, seen in contrast with media as an essential part of the experience of Digital Theatre, and the ways in which this performing human body (its abilities, reach, and borders) is extended through technology and stretched beyond traditional theatrical roles and normative social constructs.

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<sup>2</sup> Hannah Arendt, *The Human Condition*, (Chicago: The University of Chicago Press, 1958), 52-53.

<sup>3</sup> Arendt, *The Human Condition*, 58.

<sup>4</sup> See Freda Chapple and Chiel Kattenbelt, “Key Issues in Intermediality in Theatre and Performance,” in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 11-25 (Amsterdam and New York: Rodopi, 2006), 11-12, and 20-23.

In this chapter I will set the stage for my examination of the performer's body as it appears in several Digital Theatre production examples, by promoting the defiant freedom inherent in the neo-Bakhtinian body<sup>5</sup> as it rebels against the normative control instituted by the media constructed image-body, the simulacrum which haunts our consciousness replacing our recognition of the real with the desire for the hyper-real, that which is born of media and computerized production and seems more real than real.<sup>6</sup> By setting the actual, the "live," and co-present human body against its media other, the hyperreal, (cyber and cyborg characters in the form of video images, 3D avatars, or robotic puppets), a dialectical moment occurs, a questioning between human and media-machine.

The importance of this renegotiation of the perceptual boundaries between the human body and technology is well stated by Harmony Bench:

The body, the abstract idea of the body as well as the body as a physical and cultural entity, is under constant negotiation in contemporary technologically-informed art practices. In fact, some might say that the body is obsolete, that we are in a post-human era, or simply that technology is inherently anti-body and actively destroys the body. These assertions only reveal the complicated situation in which the body finds itself in relation to new technological practice. At the very least, it is true that technology at every stage demands a new anatomy, a new conception of the body in time and in space...Contemporary technology, especially in the context of new media, raises some very interesting questions about the nature of presence, consciousness, and identity in relation to the

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<sup>5</sup> A term I will define later on page 32. See also Mikhail Bakhtin, *Rabelais and His World*, Translated by Hélène Iswolsky (Bloomington and Indianapolis: Indiana University Press, 1984): 26.

<sup>6</sup> "The real is produced from miniaturized cells, matrices, and memory banks, models of control—and it can be reproduced an indefinite number of times from these. It no longer needs to be rational, because it no longer measures itself against either an ideal or negative instance. It is no longer anything but operational. In fact, it is no longer really the real, because no imaginary envelops it anymore. It is a hyperreal, produced from a radiating synthesis of combinatory models in a hyperspace without atmosphere." Jean Baudrillard, *Simulacra and Simulation* Translated by Sheila Faria Glaser (Ann Arbor: The University of Michigan Press, 1994), 2.

continually-negotiated status of the technologically-mediated body whose boundaries are constantly shifting.<sup>7</sup>

I will discuss the “body” as a theoretical construct, the body and its digital other in terms of: 1) the body of the actor and non-human other (primarily 3D puppetry), and 2) extension of the actor’s body silhouette through projection (primarily projectionist costuming).

In my efforts to show examples from Digital Theatre productions, the reader will note that within this work I often reference historical precursors, building links to the past in order to strengthen a sense of a continuing tradition of including new technology in theatre. Sometimes Digital Theatre shows the body as troubled or permeable, but often it is strengthened or expanded. It is not my intention to suggest that any one of these productions or their methods is the essential method of creating Digital Theatre, or performance for that matter, but that there is something essentially valid and compelling about the questions they provoke. The body on stage in relation to digital technology can mirror our social evolution and open up insights to who we are becoming in a mediated globalizing world.

### ***The Body Theorized***

In my brief introduction to ideas of the body theorized, I have chosen Bakhtin and Merleau-Ponty as my principal guides to discussing the usefulness of the human body onstage (in contrast with digital media). The argument begins with a recognition of the importance of the body as our primary way of interfacing with the world and its importance in creating and recognizing the other, and leads to theatre’s role as a shared

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<sup>7</sup> Harmony Bench, “Virtual Embodiment and the Materiality of Images,” *Extensions*, no. 1 (2004): 2.

public experience via co-present bodies, and ends by suggesting utilizing digital media as a visible other to the actor's living body.<sup>8</sup>

We each have a body which allows us to interface with the physical world. In the words of Ollivier Dyens: "The body is the center of our understanding of the world, for only through it can we experience and structure this world."<sup>9</sup>

Theorists like Bakhtin and David McNally, refer to the body as the seat of the 'I.' While our cultures and life experiences may determine how that body is nourished, shaped, viewed by others, or put to physical use, it remains (up to this point in our evolution) as a commonality in human experience.

Maurice Merleau-Ponty focuses on the body as the site of the experience, or the "embodied self."<sup>10</sup> According to Merleau-Ponty, it is through our embodiment that we exist in the world. "Whether it is a question of another's body or my own, I have no means of knowing the human body other than that of living it."<sup>11</sup> It is through "anchorage" or realizing the body is our origin and point of view from which we begin to experience ourselves and others, that we perceive reality.<sup>12</sup>

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<sup>8</sup> "The Other is the secondary partner in the dualism. It is needed, for without it nothing would be communicable, but it is devalued because dualistic thought works through opposition and hierarchy. Suppose, for instance, that the way we think about the world, and the way we make sense of the world is informed by a dualism that opposes mind to body and spirit to matter." Lucy Sargisson, *Utopian Bodies and the Politics of Transgression* (London and New York: Routledge, 2000), 126. See David Z. Saltz, "The Collaborative Subject: Telerobotic Performance and Identity," *Theatre Research* 6, no. 3 (2001): 70.

<sup>9</sup> Ollivier Dyens, *Metal and Flesh: The Evolution of Man: Technology Takes Over*, translated by Evan J. Bibbee and Ollivier Dyens (Cambridge and London: The MIT Press, 2001), 55.

<sup>10</sup> Ollivier Dyens, *Metal and Flesh: The Evolution of Man: Technology Takes Over*, translated by Evan J. Bibbee and Ollivier Dyens (Cambridge and London: The MIT Press, 2001), 55. Expressed also as "embodied subjects" and "being-in-the world."

<sup>11</sup> Maurice Merleau-Ponty, *The Essential Writings of Merleau-Ponty*, Edited by Alden L. Fisher (New York: Harcourt, Brace and World, Inc., 1969), 212.

<sup>12</sup> "When an individual looks at himself in a mirror, the most that he is able to see of his body is an image, or externalization, that fails to represent the experience of anchorage, or his particular experience

Through viewing ourselves and each other's bodies we establish a reflexive web of meaning, a universe of perceptions in which to mutually function. According to Bakhtin, "the 'idea of man'... is founded either in *self*-experience or in the experience of the *other* human being."<sup>13</sup> The "other" as I am using it, as in the "live" co-present biological body of the performer contrasted with its digital "other," traces back to Bakhtin's idea of the need for another, "the other" to observe and therefore define the edges of the self.<sup>14</sup> The "other" is not all else, or everything outside the individual—but an agent that refers to and elaborates on the self, in this case the digital which defines the edges the biological and *visa versa* through their simultaneous presence. In theatre, it is through the co-presence of the body (onstage and in the audience), that opens the

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and perspective from where he stands in the world" James R. Steeves, *Imagining Bodies: Merleau-Ponty's Philosophy of Imagination* (Pittsburgh, Pennsylvania: Duquesne University Press, 2004), 15. In addition to the "body at this moment" (Steeves, *Imagining Bodies*, 19; the visceral experience associated with being a human in one's body), and the "customary body" (Steeves, *Imagining Bodies*, 19; "This outward personality could not exist, if the *other* did not create it." Bakhtin, *Art and Answerability*, 36; Or body viewed externally by others), James B. Steeves notes Merleau-Ponty's suggestion of a "virtual body" which allows for the imagination to conceive of alternative perspectives/uses of the body, such as shaving or applying makeup with a mirror. Steeves, *Imagining Bodies*, 19-22. See also David McNally, *Bodies of Meaning: Studies on Language, Labor, and Liberation* (Albany: State University of New York, 2001), 124. The possibility of multifaceted viewing and observation suggested by Arendt in her discussion of the importance of the public, offers potential insight into the importance of bringing the mediated human body into the public forum for re-conceptualization of the mold set by corporate media. "...simultaneous presence of innumerable perspectives." Arendt, *The Human Condition*, 57. It has been noted that "Theatre is perhaps the most public art of all." Frank Whitford, *Bauhaus* (London: Thames and Hudson, 1984), 83. Merleau-Ponty's invention of the term "virtual body" is noted by digital performance theorists, many of whom look to Merleau-Ponty in the examination of digital performance experiences. [Including Sue Broadhurst, "Interaction, Reaction, and Performance: The Human Body Tracking Project," *TDR* 48, no. 4 (Winter 2004): 1. Günter Berghaus, *Avant-Garde Performance: Live Events and Electronic Technologies* (New York: Palgrave Macmillan, 2005): 233. David Z. Saltz, "Live Media: Interactive Technology and Theatre," *Theatre Topics* 11, no. 2 (2001): 131. Barbara Becker, "Marking and Crossing Borders: Bodies, Touch and Contact in Cyberspace," *Body Space and Technology* 3, no. 2 (2003). To name a few.]

<sup>13</sup> Bakhtin, *Art and Answerability*, 52.

<sup>14</sup> "It is the social process of influencing others in a social act and then taking the attitude of the others aroused by the stimulus, and then reacting in turn to this response, which constitutes a self." George H. Mead, *Mind, Self, and Society: From the Standpoint of A Social Behaviorist*, edited by Charles W. Morris (Chicago and London: University of Chicago Press, 1962), 171.

dialogue between the individual body and that of the other, a “dialogic interaction.”<sup>15</sup>

This dialogic interaction allows Digital Theatre to have a digital other to better help us conceptualize ourselves in relation to our evolving computerized lives.

As Meike Wagner notes:

...there is a tradition of viewing theatre and media as two distinct domains defined by their opposition to each other. The live body of the actor, corporeal presence, has become the main criteria by which to define theatre. This argument links theatre to incarnation: if there are bodies present on stage then there is live performance; hence, there is theatre. The human body is set up as a shield to the mediatized body and there is a clear line between the two spheres: on one side of the line there is live performance, where the authentic human body is physically present.<sup>16</sup>

This duality of performance between live and mediated, between human and digital other is essential to the performance of Digital Theatre. The value of this experience lies in its ability to reinterpret current perceptions of the body.

There is an essential difference between the hyper-real body seen through the media and the anchored experience of the lived body; one is created for mass consumption (exemplified by Michel Leiris’s Dutch girl<sup>17</sup>), and the other is the actual body (the body of the live audience, television viewer, game-player, consumer). Today,

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<sup>15</sup> McNally, *Bodies of Meaning*, 124.

<sup>16</sup> Meike Wagner, “Of Other Bodies: The Intermedial Gaze in Theatre,” in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 125-136 (Amsterdam and New York: Rodopi, 2006), 126.

<sup>17</sup> “I owe my first actual contact with the notion of infinity to a tin of Dutch cocoa, the raw material of my breakfasts. One side of the tin was decorated with an image of a farm girl in a lace cap, holding in her left hand, an identical tin, decorated with the same image of the smiling, pink girl. I still get dizzy imagining this infinite series of an identical image endlessly reproducing the same Dutch girl who, theoretically shrinking without ever disappearing, mockingly stared at me, brandishing her own effigy painted on a cocoa tin identical to the one on which she herself was painted. I suspect that mingled with this first notion of infinity... was a somewhat sinister element: the hallucinatory and actually ineffable character of the Dutch girl, infinitely repeated the way licentious poses can be indefinitely multiplied by means of the reflections in a cleverly manipulated boudoir mirror.” Michel Leiris, *Manhood: A Journey from Childhood into the Fierce Order of Virility*, Translated by Richard Howard (San Francisco: North Point Press, 1984), 11, quoted in Rebecca Schneider, *The Explicit Body in Performance* (London and New York: Routledge, 1997), 92. Leiris, *Manhood*, 92.

the actual or “authentic” body as Meike Wagner calls it, has receded into the background while the mediatized spectacle of the consumable body replaces our individual (physical) self-recognition with a collective want/desire.

It has been said that Hollywood produces beautiful bodies for mass consumption;<sup>18</sup> and creates a plasticized hyper-real body which is the empty container for product message and provocateur of desire which is continually deferred.<sup>19</sup> As Ollivier Dyens says, “The commercialized body is unstable without meaning as a sign.”<sup>20</sup> I agree with Nigel Thrift that we need to view the body as more than a surface for the inscription of commercial messages.<sup>21</sup> In these commercial depictions of the body, the body is reduced to what Gil (1998) calls a “body image.”<sup>22</sup> I will be inverting this term, “body image,” and I will often use “image body” to indicate that the object of conversation is the digitized or mediated image; the representation of the body which is the digital other of the “live” body of the human performer.

In the 1960s the body, and especially Bakhtin’s grotesque body was explored on stage (including presentations of sex, bodily functions, and violence).<sup>23</sup> The body was

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<sup>18</sup> Synnott, *The Body Social*, 27.

<sup>19</sup> Plasticized: “Each plasticized body participates in the dissemination of a particular view of the world.” Ollivier Dyens, *Metal and Flesh: The Evolution of Man: Technology Takes Over*, Translated by Evan J. Bibbee and Ollivier Dyens, (Cambridge and London: The MIT Press, 2001), 68. Hyper-real: see Jean Baudrillard, *Simulacra and Simulation* Translated by Sheila Faria Glaser (Ann Arbor: The University of Michigan Press, 1994), 2.

<sup>20</sup> Dyens, *Metal and Flesh*, 80.

<sup>21</sup> “... we need to escape the constructionist notion of the body as simply an inscribed surface.” Nigel Thrift, “Still Life in Nearly Present Time: The Object of Nature,” in *Bodies of Nature*, edited by Phil MacNaghten and John Urry, 34-57 (London: Sage Publications, Ltd., 2001), 39.

<sup>22</sup> Nigel Thrift, “Still Life in Nearly Present Time: The Object of Nature,” In *Bodies of Nature*, edited by Phil MacNaghten and John Urry (London: Sage Publications, Ltd., 2001), 39.

<sup>23</sup> Bakhtin, *Rabelais and His World*, 26. The Bakhtinian ideal of the grotesque body is the body of the folk at times of carnival and festival which overturns official order by celebrating in the low, bodily,

celebrated in carnivalesque productions (like those by Living Theatre, Grotowski, Schechner, and Brook) which could be best described as bawdy, gritty, and ecstatic. Today we need to reinterpret the Bakhtinian ideal of the rebellious body found in these performance traditions, for our own time, (finding a method of public performance that honors heteroglossia or multiple voices and viewpoints, rather than the passive consumption of glossy illusions of choice).<sup>24</sup>

Due to the televisual culture's adaptation of low forms of the image-body, it has become necessary to reexamine the ideas of Bakhtin in relation to the body as a potential sign, a new rebellious body. At the core of Bakhtin's work *Rabelais and His World*, is the body as a tool of the people and a sign of resistance to official powers (or messages). Bakhtin idealizes Rabelais' basic goal to "destroy the official picture of events," and seizes on the body as a source of disruption and inversion and redistribution of power.<sup>25</sup> Today, the underlying idea of the power of the body to resist the official cannot be manifest through exposure of the low (genitals, feces, and blood) because these images have been co-opted by the Corporate-Global-Media. As both performance artists and theorists alike have noted, our mediated culture has pushed us to consume and accept previously shocking even Sadistic images of the body.<sup>26</sup> ("...we are provided with a

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acts of role inversion, and bawdy humor –demonstrating the power of the crowd and the shared physical and embodied nature of humanity across social strata. See also Sally Banes, *Greenwich Village 1963: Avant-Garde Performance and the Effervescent Body* (Durham and London: Duke University Press, 1993), 189-233.

<sup>24</sup> See McNally, *Bodies of Meaning*, 231.

<sup>25</sup> Bakhtin, *Rabelais and His World*, 439. Rabelais "made the top and the bottom change places, intentionally mixed the hierarchical levels in order to discover the core of the object's concrete reality, to free it from its shell and to show its material bodily aspect—the real being outside all hierarchical norms and values." Bakhtin, *Rabelais and His World*, 403.

<sup>26</sup> For example, performance artist Guillermo Gomez Peña notes diminishing returns for shock in performance art in his article, "There Goes the Virtual Neighborhood: A Conversation on Technology,



psychology of the person who is seeking for pleasure, or rather stimulation, and whose motivation is explained by this search...the illuminated Sadean hero is one who is longing for extreme pleasure, even if it is only for the short run...pleasure here and now, regardless of its cost.<sup>27</sup>) Sex, violence, and visceral revulsion have become major commodities of our televised cultural-instruction.<sup>28</sup> What used to be considered shocking as performance art is now accepted as mainstream on television.<sup>29</sup> Bakhtin himself notes that Romanticism (of which de Sade might be said to belong) creates graphic images of the body which undervalue the positive essence of the reveling grotesque body. “Images of bodily life, such as eating, drinking, copulation, defecation, almost entirely lost their regenerating power and were turned into ‘vulgarity.’”<sup>30</sup> I would say that by extension the same is true of the body as it is seen today through the mass media. It is time to rediscover the

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Performance Art and Digital Racism,” *Art Papers* 25, no. 6 (November/December, 2001): 56-61. “We are living in a culture heavily imbued with Sadean thought.” Raimondo Strassoldo, “Sade Triumphant: The Body in Contemporary Art,” In Leopoldina Fortunati, James E. Katz, and Raimonda Riccini, eds. *Mediating the Human Body: Technology, Communication, and Fashion* (Mahwah, NJ, and London: Lawrence Erlbaum Associates, 2003), 45. Strassoldo goes on to explain: “Mention should be made of the presence of Sadean motifs in the developing mass culture. For the last quarter-century, popular novels and newspapers have been filled with a mix of sex and death...In the second half of the 20<sup>th</sup> century, the Sadean mixture of eros and thantos, of pleasure and pain, of sex and violence, of orgasm and horror, became the main fare of mass culture too. People look eagerly for it in all media, which compete in supplying even greater and more extreme doses of what they want.” Strassoldo, “Sade Triumphant,” 46-47.

<sup>27</sup> Timo Airaksinen, *The philosophy of the Marquis de Sade* (London and New York: Routledge, 1995), 11.

<sup>28</sup> For example, on the television show *Fear Factor*, participants are routinely locked in submerged cages or made to consume insects or other repellent foods for the entertainment of viewers. *Fear Factor*, NBC, directed by J. Rupert Thompson, executive producers: Matt Kunitz, and David A. Hurwitz, produced by Endemol USA, June 11, 2001-September 12, 2006.

<sup>29</sup> For example, performance artist, Orlan, shocked the art world and made an impression on our culture in the 1980s/90s by opening her plastic surgery operations (and therefore her body and its manipulation) up to audiences. Today that shocking message of altering the body to meet with societal views of beauty, has been appropriated and redistributed by the media-machine as *Dr. 90210*, a television show promoting plastic surgery as a normalized way of life. *Dr. 90210*, E! Entertainment Television, produced by Carmen Mitcho, Jen Morton, and Eric Monsky, July 11, 2004-present.

<sup>30</sup> Bakhtin, *Rabelais and His World*, 39.

body as a potential tool for change against this new corporate form of the “official monotone.”<sup>31</sup>

It is the spirit of revolt—but not the means of its expression—that we can take from Bakhtin’s potent grotesque body. The ability of the uproarious folk body in carnival celebration to free the masses from “the deadening weight of the ‘conventions, and established truths’ of the dominant world view,” is still a desirable ideal which must be found in new form.<sup>32</sup>

In the past, practitioners like Jerzy Grotowski used the body as a sign and as a point of connection between the body in the seat and the body on stage is an example of the power of the body in theatre.<sup>33</sup> “Theatre—through the actor’s technique...the discarding of masks, the revealing of the real substance: a totality of physical and mental reactions...Here we can see theatre’s therapeutic function for people in our present day civilization.”<sup>34</sup> The creation of Poor Theatre was a reaction to an earlier form of the same illusionist mediation which we face today, only now, media spectacle consumes reality on a much greater scale. Where Grotowski was able to promote the body as his only tool, today we must utilize the strength of his belief in the co-present body as a means for creating social connection, along with the technology which permeates our lives.

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<sup>31</sup> Bakhtin, *Rabelais and His World*, 433.

<sup>32</sup> David McNally, *Bodies of Meaning: Studies on Language, Labor, and Liberation* (Albany, NY: State University of New York Press, 2001), 146. The folk body, is the storehouse of “potential energies of liberation.” McNally, *Bodies of Meaning*, 228.

<sup>33</sup> I am well aware that many of Grotowski’s practices came out of a disregard of spectacle external to the body, represented at that time by artists like Svoboda, who was using filmic technology on stage. The body was seen by Grotowski as its own force, (or technology) which could create sets, spectacle and sound through its own plastic, gymnastic, and somatic means.

<sup>34</sup> Jerzy Grotowski, *Towards a Poor Theatre* (New York: Simon and Schuster, 1968), 255-256.

## Neo-Bakhtinian Body

I propose the rediscovery of the “live” body as a sign in Digital Theatre. Through the co-existence of media and the “live” co-present body on stage, in Digital Theatre the tension between passive consumption and active recognition is made present, to be resolved by the audience. This co-present body (the human other to digital information and the image-body) can be used in alternative forms of communication and performance to reembody the spirit of the “grotesque body;” in the rebellious and empowered neo-Bakhtinian body.<sup>35</sup> “Neo-Bakhtinian” is a term I am using to express the resistant human body of the “live” actor contrasted with digital media and his digital “other.” The neo-Bakhtinian body is today’s embodiment of Bakhtin’s rebellious grotesque, carnivalesque body that demonstrates the strength of the folk to “overthrow” the official norms; utilizing the contrast of flesh to digital instead of low bodily to signal the body as a tool of overturning behavioral norms or messages. The Neo-Bakhtinian body is the site of resistance, of reclaiming power. When the living, biological body of the performer is seen alongside media, it is up to the audience to recognize their situation and make the decision of the relative value and states of the contrasting entities on stage. In this didactic moment between digital and flesh, it is not essential whether the biological performer or the digital other is dominant. Whenever the human is viewed alongside the digital, the “live” body is resistant. The neo-Bakhtinian body could not occur without its contrasting other—digital media. This neo-Bakhtinian body is a possible protagonist to

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<sup>35</sup> “Contrary to modern canons, the grotesque body is not separated from the rest of the world. It is not a closed, completed unit; it is unfinished, outgrows itself, transgresses its own limits. The stress is laid on those parts of the body that are open to the outside world, that is, the parts through which the world enters the body or emerges from it, or through which the body itself goes out to meet the world... This is the ever unfinished, ever creating body.” Mikhail Bakhtin, *Rabelais and His World*, Translated by Hélène Iswolsky (Bloomington and Indianapolis: Indiana University Press, 1984): 26.

challenge the Sadian (exploited, over-stimulated, desensitized) and hyper-real image-body manufactured by mass media and consumer culture.

Unlike Phalen, who extols the live actor's body onstage, I believe it is not the biological body alone on stage which is essential to today's theatre, but the neo-Bakhtinian body, a site of resistance, which manifests when both biological (real) and digital other (media) manifest on stage. The space between them is charged with their *différance* (the play between like and unlike and the slippage between meanings).<sup>36</sup> It is then left to the audience to determine their response to this inherent tension. While I agree with the statement made by Peggy Phelan that, "the basic raw material of theatre performance" is the body, to reject technology on stage today is to allow it to become ancillary, historical, and ultimately consumed by the forces which now shape us—the technologies of the global media.<sup>37</sup> It is through the body, co-present with digital media that we can re-discover the edge between body and image, and distinguish between real and the hyper-real. This didactic Brechtian tension can wake us up to our situation in the mediated world, and make us aware of the necessity to actively make choices about the world we inhabit and can still shape.

### **Difference/Différance**

In this chapter I have and will express the body in a series of binaries including: public/private, inside/outside, 2D/3D, real/hyperreal, the primary one being "live"/digital. What lies at the core of my argument is that opposites need to be expressed in order to

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<sup>36</sup> I will explain this term in greater detail later on this page. See also Jacques Derrida, "Différance," in *Literary Theory*, Vol. 4, *Post-Structuralism, Deconstruction, Post-Modernism*, edited by Julie Rivkin and Michael Ryan, 385-407 (Malden, MA: Blackwell Publishing, 2004), 387-388.

<sup>37</sup> Synnott, *The Body Social*, 205.

view the conflicting poles in proximity, and then to explore the charged areas where they overlap, the spaces in between, and the way that two ideas mix unexpectedly. It is the interstices in between two polarities which intrigues me, because they challenge the notions of either/or, yet these complications (or reevaluations) would not be possible if not for the confrontation of opposites (or others).

Jacques Derrida's term *différance* evokes a certain flexibility of meaning which plays between not only words and ideas, but opposites as well.<sup>38</sup> His writing on his neologism enacts a slippage between states (meanings); *différance* is a word that connotes itself being formed, and meaning (and complication of meaning) in process and in negotiation. This "irreducibly nonsimple" term is demonstrated by playing with the "a" in difference—the interplay between meanings, the creation of meaning, the links or traces between words/ideas/thoughts and their opposites, the formation of a complex, inconceivable nothingness, which is really something.<sup>39</sup> It is a word to make visible the invisible multiplicity of meanings in conversation in the present.<sup>40</sup>

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<sup>38</sup> In his writing, Derrida explicates and creates *différance* in a variety of ways. The word composites the words deferring, differ (delay which is temporalizing), and difference (other). He indicates that it is not a word or a concept, but a point of connection for various theories connecting other, differing, language/speech, etc., yet creates the obliquely conceptual word through the writing (and its reading, and re-reading) itself. He wrote: "...not only is *différance* irreducible to every ontological or theological—onto-theological—reappropriation, but it opens up the very space in which onto-theology-philosophy – produces its system and history." Derrida, "Différance," 388. The "a" in *différance* enacts the instability or play of meanings, and demonstrates the tenuousness of language/characters in relation to each other, building meanings. It "draws out an invisible connection, the mark of an unapparent relation between two spectacles." Derrida, "Différance," 387. *Différance* deals with the *traces* (overlaps, confrontations, and inconsistencies) between words and meanings.

<sup>39</sup> Jacques Derrida, "Différance," in *Literary Theory*, Vol. 4, *Post-Structuralism, Deconstruction, Post-Modernism*, edited by Julie Rivkin and Michael Ryan, 385-407 (Malden, MA: Blackwell Publishing, 2004), 394.

<sup>40</sup> "Différance can refer to a whole complex of its meanings at once." Derrida, "Différance," 390.

Most importantly, Derrida expresses *différance* variously as: “the difference between differences” and the “play of differences.”<sup>41</sup> Derrida wrote that “*différance* will be thus the movement of play that ‘produces’ (and not by something that is simply an activity) these differences, these effects of difference.”<sup>42</sup> Because it is associated with the space in between (through its connection with differing and deferring, and its active “middle voice”), by extension *différance* is manifest in the process of exchange and interplay between seemingly opposite, othered or unlike things.<sup>43</sup> Derrida wrote: “The one is only the other deferred, the one differing from the other. The one is the other in *différance*, the one is the *différance* from the other. Every apparently rigorous and irreducible opposition (for example between primary and secondary) is thus said to be, at one time or another, a ‘theoretical fiction.’”<sup>44</sup> It is this paradoxical flux between sameness and otherness (and the resulting shifts of meaning), which lends the term to my discussion of the near invisible, yet palpable interaction between the opposites of digital and “live” bodies, which are both alike and not alike simultaneously.

Occasionally I will be using *différance* to illuminate the charged area in between, where two objects, ideas, or polarities overlap. My use of *différance* to speak of the interplay of meaning of bodies and selves, which flows from the juxtaposition of like and unlike forms of organic and digital bodies (of “live” human and non-human actors) co-

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<sup>41</sup> Derrida, “*Différance*,” 384, 392.

<sup>42</sup> Derrida, “*Différance*,” 395.

<sup>43</sup> Derrida, “*Différance*,” 390. “The enigma of *différance*...it is evidence itself...same and the absolute other...cannot be conceived *together*...If *différance* is this inconceivable factor, must we not perhaps hasten to make it evident, to bring it into the philosophical element of evidence...thus dissipate it...” Derrida, “*Différance*,” 399.

<sup>44</sup> Derrida, “*Différance*,” 399.

existing on stage is strengthened by Meike Wagner who also utilizes difference/différance as the key to understanding the play between the similar opposites (body and puppet) and the fluctuating borders of the body in performance. In “Of Other Bodies: The Intermedial Gaze in Theatre,” Wagner writes:

This idea is perhaps best understood through reference to Derrida and his concept of *difference/différance*, as Derrida and Merleau-Ponty inhabit some of the same conceptual space. The *flesh* operates in the ephemeral permeable borderline referred to earlier where, through interaction with the other, it constantly reconstitutes itself. The body as flesh is, at the same time, both the delimiting skin and the place where the inside fuses with/dissolves into the outside. Both appearance of the body—the *delimitation* and *the fusion*—crystallize for a little while, but only to vanish again; they are bound to an everlasting stabilizing and destabilizing *phenomenological interplay*.<sup>45</sup>

I will use the term *différance* to indicate the presence of an unnamed or unquantifiable event or contestation between forms, and a renegotiation of meanings; to express how non-human actors—today’s interpretation of puppets (such as robots, AI, etc.)—inform and are informed by the simultaneously present “live” (biological) bodies of performers.

## **The Digital Other**

In Digital Theatre the living or “live” body of the actor can encounter their digital “other.” This non-human or media actor can take many forms: avatar, cyborg performer, a video trace of another or even same pre-recorded actor, animated puppets, robots, even Artificial Intelligence (AI). In discussing the human and non-human actor in dialogue, it makes sense to progress through increasing levels of complexity of digital non-human

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<sup>45</sup> Meike Wagner, “Of Other Bodies: The Intermedial Gaze in Theatre,” in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 125-136 (Amsterdam and New York: Rodopi, 2006), 131.

actors including their visual/conceptual différence from a human actor. Non-human actors will be discussed in terms of video, animated puppets, and robots.

If the human actor is the beginning point of the conversation with its other, then we will start with the co-presence of the living actor with his media shadow as seen in film and video. Given the televisual nature of our society, it is no surprise that we have grown accustomed to mediated images of human bodies. But the current form of mediated other was presaged by earlier forms seen next to fully present performers.

### **The Video Other**

Because I have spoken at length about the image-body and the digital other, I will briefly discuss works in which the moving pre-recorded image and occasionally real-time images of performers, mediated through video, join the three dimensional living actor on stage. Digital Theatre productions using video projection of actors offer perhaps the clearest visual example of the image-body or mediated body as represented in dialogue with the living actor (thus empowering the neo-Backtianian body, a rebellious, physical body engaged in active conversation with the mediatizing world).

Film theorist Béla Balázs once wrote:

On the stage the living, speaking human being has a far greater significance than dumb objects. They are not on the same plane and their intensity is different. In the silent film both man and object were equally pictures, photographs, their homogeneous material was projected on to the same screen, in the same way as in a painting, where they are equally patches of colour and equally parts in the same composition. In significance, intensity and value men and things were thus brought on to the same plane.<sup>46</sup>

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<sup>46</sup> Béla Balázs, *Theory of the Film Character and Growth of a New Art*, Translated by Edith Bone (London: Dennis Dobson, Ltd., 1952), 58.



It is this flattened image body on the same plane with all other filmic elements which is contested by the living presence of the actor's three dimensional body in Digital Theatre, and before it in filmic projectionist theatre. Author Andy Lavender states, "We are presented with the meeting between the live actor and mediated actor-as-other, seeing the same person as two people and the human figure as both actual and expanded. The actuality of the actor's presence is heightened by the co-presence of his or her mediated selves, which are themselves staged as part of the theatrical mix."<sup>47</sup>

The body and the video other have been of great interest lately. Jennifer Parker-Starbuck's dissertation on Cyborg Theatre includes both video and digital media.<sup>48</sup> In addition to discussing works by George Coates which include the use of digital media and live actors, Parker-Starbuck also addresses two artists who utilize (analog) video to create a sense of hybridity or cyber-characters which are both mediated and live.<sup>49</sup> The cyborg actor is both flesh and technology and therefore a remedy to the reign of image bodies; or as Parker-Starbuck calls them: "screened bodies" created by the media.<sup>50</sup> In his discussion of the "uncanny double," Matthew Causey in his dissertation and related article, "The Screen Test of the Double: The Uncanny Performer in the Space of

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<sup>47</sup> Andy Lavender, "Mise en Scene, Hypermediacy and the Sensorium," in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 55-66 (Amsterdam and New York: Rodopi, 2006), 62-63.

<sup>48</sup> Her qualitative approach to the works which are Cyborg Theatre do not allow for performances which are not in her eyes efficacious, and while I would like to be able to say that all works falling within the parameters of Digital Theatre are good (and efficacious), they are not. In this survey I am simply presenting the best aspects of the strongest works in an effort to show the potential relevance of the form.

<sup>49</sup> Jennifer Parker-Starbuck, "Cyborg Theatre: Corporeal/Technological Intersections in Multimedia," PhD dissertation, City University of New York, 2003, 30.

<sup>50</sup> Exposed "'screened' bodies in the public media (billboards, magazines, films, television in the US)...The screen itself is exposed as a method of surveillance, control, and isolation." Parker-Starbuck, "Cyborg Theatre," 121.

Technology,” uses Freud and Lacan to view the meeting between live and mediated forms in new media performance. Yuji Sone gives what I think is a very concise view on Causey’s work saying, “The self as other in the space of technology presents an uncanny Double, characteristic of the psychological reading.”<sup>51</sup> Causey and I are both interested in the “moment when a live actor confronts her mediated other through the technologies of reproduction,” however, we diverge on the outcome of the meeting between the “live” and the mediated.<sup>52</sup> Causey sees the video image as “more real than the live actor,” to which I must disagree.<sup>53</sup> However, I will continue to refer to this as a dialogue between “live” and digital (the non-human digital actor) in which the neo-Bakhtinian body appears as hopeful through the very presence of its contestation of the televisual or hyperreal.

### **The Video Other: Historical Background**

This area of investigation is not a simple one in terms of the uniqueness of Digital Theatre, for as one could rightly argue, similar effects have been achieved (live/mediated moving images) using non-digital forms such as video, television, and film. (See also Appendix A: The Projectionist Past.) Soon after its invention and public distribution, actual film footage began to be used on stage in the early twentieth century. Much as the Realist and Naturalist movements in theatre were influenced by the ideal of photographic

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<sup>51</sup> Yuji Sone, “Sensory Otherness in Laurie Anderson’s Work,” *Body Space and Technology* 5, no. 1 (2005), <http://people.brunel.ac.uk/bst/documents/sone.doc>.

<sup>52</sup> Causey, “The Screen Test of the Double,” 385.

<sup>53</sup> Causey, “The Screen Test of the Double,” 389.

science and representation of life as truth, Erwin Piscator and fellow practitioners of his era were shaped by the expressions made possible by film.

### **Futurists/Bauhaus Precursors**

Among the modern movements, both the Futurist and Bauhaus were precursors of current digital performance and therefore Digital Theatre. Just as they explored the potential expression of the mechanical in their chaotic visions of a gloriously industrial society,<sup>54</sup> we now explore the potentials and impact of computers and the hyperreal in theatre. The Futurists with their love of speed, dynamism, and force, emulated the machine and extolled its virtues in not only painting and sculpture, but enacted the mechanized onstage through sound, dramatic scripts, stage action, and costuming.<sup>55</sup> Likewise, the Bauhaus made major inroads into the use of lighting as action and set as well as geometrically simplified shapes in costuming and the use of synthetic actor-objects.

Futurists and Bauhaus affiliates are also known to have proposed the use of filmic projection in live theatre. Walter Gropius wrote,

Films can also be projected onto various surfaces and further experiments in space illumination will be devised. This will constitute the new ACTION OF LIGHT, which by means of modern technology will use the most intensified contrasts to guarantee itself a position of importance equal to that of all other theater media.<sup>56</sup>

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<sup>54</sup> Their enthusiasm for the mechanical was mixed with fascism and a love of war and change.

<sup>55</sup> “Poupées Electriques, for example, published by Marinetti in French in 1909, before the publication of the first Futurist manifesto, is a rather traditional play in which one of the characters has invented and manufactures mechanical people.” It included actors pretending to be robots. Michael Kirby, *Futurist Performance*, Translated by Victoria Nes Kirby (New York: PAJ Publications, 1971), 92.

<sup>56</sup> Walter Gropius, and Arthur S. Wensinger, eds., *The Theater of the Bauhaus* (Baltimore: The Johns Hopkins University Press, 1961), 67.

A notable description of the use of film in performances of the times is Friedrich Kiesler's 1922 production of Karel Capek's *R.U.R.*<sup>57</sup>

There is a sympathetic note to what I am describing as a potential outcome of Digital Theatre's simultaneously "live" human actor and mediated forms.<sup>58</sup> This "recognition of that which can not be mechanized," or in our case, that which cannot be digitized or engulfed in the hyper-real, makes a case for the identification of a consistent value (of the human element).<sup>59</sup>

### **Erwin Piscator and Josef Svoboda**

In the early days of cinema, theatre practitioners such as Erwin Piscator began to utilize the scenic verity of place offered by cinema as backdrops or counterpoints in staging theatre. Piscator is credited by some as the first major director to significantly integrate live actors and filmic projection.<sup>60</sup>

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<sup>57</sup> It is notable because of its importance in the creation of the depiction of and creation of the terminology for "robots." "Karel Capek's *R.U.R.* at the Theater am Knrfflrstendamm, Berlin, in 1922 never directly associated with the Bauhaus, Kiesler, with his 'space stage' and *R.U.R.* production, was assured of a considerable reputation there." RoseLee Goldberg, *Performance Art: From Futurism to the Present*, Revised and enlarged edition (New York: Harry N. Abrams, Inc., Publishers, 1988), 115.

<sup>58</sup> Schlemmer on the importance of the human actor: "Since we do not yet have a perfected on stage (the technical equipping of our own experimental stage lags for the time being far behind that of the government-subsidized stages), man remains perforce our essential element. And of course he will remain so long as the stage exists." Oskar Schlemmer, "Theater (Bühne)," In *The Theater of the Bauhaus*, edited by Walter Gropius, and Arthur S. Wensinger (Baltimore: The Johns Hopkins University Press, 1961), 91.

<sup>59</sup> This is not to say that Bauhaus actors were not reduced to simplified geometric figures or non-human object actors, but that there is a sentiment of keeping something of value, which I am suggesting is found through a dichotomy of live/mediated and the resistance of the neo-Bakhtinian body.

<sup>60</sup> Including Bertolt Brecht, see Bertolt Brecht, *The Messingkauf Dialogues*, Translated by John Willett (London: Methuen Publishing, Ltd., 1974), 65. "The first truly significant adoption of film by theater is to be found in the work of Erwin Piscator." Jarka Burian, *The Scenography of Josef Svoboda*, (Middletown, Connecticut: Wesleyan University Press, 1971), 77. "No other director used film so extensively or thought about it so systematically as Piscator, who came to employ front projection, back projection, and simultaneous or overlapping projection from more than one source." John Willett, *The Theatre of Erwin Piscator* (New York: Holmes & Meier Publishers, Inc., 1979), 113.

Piscator's use of film engaged the audiences in a debate with visual records of recent history. He esthetically stretched the medium of theatre by engaging the bodies of the stage actors (and their characters) in a dialogue with the new technology of film. This created a forum of debate between live and mediated, between past and present, and opened up debate between real and fictional which was intended to spill into the audience.

For example, in *Rasputin, the Romanoffs, the War and the People, who Rose up against Them* the historical filmic media engages in a visual debate with the reality of the characters on stage. As the Czarina reads a letter from her husband on the front lines, projected images of massacre depict the reality of which the character is not aware.

The film prologue began, showing four centuries' worth of Tsars, and leaving Nicholas II standing on top of the world with Rasputin's shadow looming above. Then came shots of Tsarist oppression, ending with an infantry attack on the Eastern front. From that point the film seems to have been used primarily as illustration or comment within the scenes, accompanied this time by projected texts on a separate screen to the side of the stage. Thus where one of the ministers assured the Tsarina that all would be well once the war had been won the side screen showed a long list of lost battles ... while above her head ran film shots of the shooting of the imperial family at Tsarskoye Selo.<sup>61</sup>

The royal family is shown to be comprised of flawed individuals having a limited temporal and historical scope, unable to escape or know the outcome of their actions, while the informed audience is aware of the characters' impending doom via film projections.<sup>62</sup>

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<sup>61</sup> John Willett, *The Theatre of Erwin Piscator*, (New York: Holmes & Meier Publishers, Inc., 1979), 90.

<sup>62</sup> Oscar G. Brockett, and Robert Findlay, *Century of Innovation: A History of European and American Theatre and Drama Since 1870*, (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1973), 410.

The Tsarina is still defiant—but the film knows better. ‘Time’ only exists for the Tsarina—we are above time. The individual speakers are aware only of their own situation, or the situation of those nearest them. The film projected on the gauze knows the general situation, the collective situation. It is fate, the voice of wisdom. It knows everything.<sup>63</sup>

The film communicates an alternative understanding of time, memory and fate to the audience, a sense of reality which is rooted in the historical accuracy of real actions occurring in real places to real historical bodies. It is this ability for the media to confront and comment on the actual stage action which David Saltz later categorized as “Commentary” in his twelve uses of digital media.<sup>64</sup>

Another twentieth century proponent of projectionist theatre who has greatly shaped Digital Theatre is Josef Svoboda. Like his precursor Piscator, and current artists who followed him, Svoboda integrated new technology in his productions, many of which contrasted live with mediated actors. In his ground-breaking work with multiple projection surfaces, Josef Svoboda created kaleidoscopic interactions between the live performer and planes of projected images. For the 1958 World’s Fair in Brussels (Czechoslovakian Pavilion), the Czech sceneographer created *Laterna Magika* and later the *Polykran*. In each of these exhibits, multiple filmic and still images were projected on a large number of projection surfaces arranged in space.<sup>65</sup> In the *Polykran*, live

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<sup>63</sup> Braun, *The Director and the Stage*, 156.

<sup>64</sup> Saltz’s list includes: Virtual Scenery, Interactive Costumes, Alternate Perspective, Subjective Perspective, Illustration, Commentary, Diegetic Media, Affective Media, Synesthesia, Instrumental Media, Virtual Puppetry, and Dramatic Media. He defines Commentary as “The media have a dialectical relationship with the stage action or serve as epic commentary on it.” David Z. Saltz, “Live Media: Interactive Technology and Theatre,” *Theatre Topics* 11, no. 2 (2001): 125.

<sup>65</sup> Both “employ a synchronous, multi-screen, multi-projection system of both slides and film, the *Laterna Magika* also employing a complex integration of living performers with screened images.” Josef Svoboda, *The Secret of Theatrical Space*, Edited and translated by J.M. Burian (New York: Applause Theatre Books, 1993), 10.

performers interacted with projections.<sup>66</sup> Laterna Magika projections often featured performers along with pre-recorded or mediated versions of themselves.<sup>67</sup> This performance between live actors and their mediated doppelgangers in some sense goes beyond Piscator's earlier experiments with historical and stage character. As well as being visually stunning (and quite novel at the time and perhaps even by today's standards<sup>68</sup>), they began to beg questions of identity and mediation. This will be discussed later in greater depth by today's artists working with mediated selves.

Laterna Magika gained some of its visual magic through multiple projection surfaces and mobile screens which could follow actors and film clips produced for specific productions to create mirroring and well timed "interactions" between live and filmic (or mediated) actors.<sup>69</sup> According to Svoboda,

The play of the actors cannot exist without the film, and visa-versa—they become one thing. One is not the background for the other, instead, you have a simultaneity, a synthesis and fusion of actors and projection. Moreover, the same actors appear on screen and stage, and interact with each other. The film has a dramatic function.<sup>70</sup>

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<sup>66</sup> Svoboda, *The Secret of Theatrical Space*, 10.

<sup>67</sup> "The Laterna Magika...consisted of three film and two slide projectors, synchronously controlled, plus a device that enabled deflection of one projection beam to any desired spot, including a moving screen...eight types of mobile screens...could rise, fall, move to the side, fold up, rotate, appear and disappear in precise rhythm with the actors. The stage itself was provided with a moving belt to accommodate the need for virtually instantaneous live action in response to the film. One of the screen, moreover was equipped with a diaphragmatic framing shutter curtain...multi-speaker stereographic sound." Burian, *The Scenography of Josef Svoboda*, 85.

<sup>68</sup> As seen by the continued existence of the Magic Lantern as a tourist draw for Svoboda's native country.

<sup>69</sup> "For example, a smaller screen moved synchronously with the actor and picked out what was needed from a projection which filled the black space of the stage." Svoboda, *The Secret of Theatrical Space*, 56.

<sup>70</sup> Burian, *The Scenography of Josef Svoboda*, 83.

One such example is the woman who plays the hostess of the event, who interacts with two filmed versions of herself, and the young man seated by her at the piano who was filmed five times with different instruments in order to play in a band with himself. According to author Jarka Burian, “Laterna Magika becomes, in effect, a new, hybrid medium.”<sup>71</sup> This “hybridity” is directly seen in the interaction and juxtaposition between the filmic and the “live” actor. (See Appendix B: Piscator and Svoboda.) Together, the filmic and live actors challenge us to review their relationship and differing perceptual natures.

### **Video**

Toward the end of his career, Svoboda began to work with television and video. He was joined in these explorations by multiple artists who explored live vs. mediated performance from a live art and video art (plastic arts) background.<sup>72</sup> Soon the gallery, lofts and other performance spaces joined theatre spaces as sites for live/mediated dialogue. Groups including the Fluxus group, and artists like John Cage who came out of Black Mountain College began an international movement to include the increasingly common elements of video, film, and T.V. with live performance.

The electronically mediated image simultaneously displayed with the live stage action creating a juxtaposition of the discourses of the body with the electronic medium in earlier video art is equivalent (in most aspects) to that of the “live” body and the digitally manipulated video image body in dialogue in Digital Theatre.

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<sup>71</sup> Burian, *The Scenography of Josef Svoboda*, 83.

<sup>72</sup> See Berghaus, *Avant-Garde Performance*, 182.



## The Digital Other

At the same time as it repeats some aesthetic techniques or effects with analog forms of projectionist theatre, digitization offers a host of new opportunities. Digital video's uniqueness lies in its digital, and therefore flexible and easily manipulated nature. "What is historically and technologically novel about digitization is precisely its unique capacity to translate all other media representation into a homogeneous algorithmic mode of expression," which can then be manipulated or interpreted in a number of ways.<sup>73</sup>

The digitally created image body stands in contrast to that which is human.<sup>74</sup> As author Olivier Dyens says:

When a human is digitized (when his image is digitized), the resulting image is no longer the 'mirror' of a living being. A digitized human being becomes other... Once digitized, the image of a human being is released from its origin and can transform itself into a multitude of landscapes; it becomes a system unimpeded by any conceptual limits.<sup>75</sup>

This reproducible morphic digital other stands in direct contrast to the corporeality of the human actor whose unique body creates the character onstage.<sup>76</sup> Unlike the (generally stable) permanent physical frame of the human actor, the digital actor is completely protean. Once digitized, this image body can combine with all other forms of digital

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<sup>73</sup> Vivian Sobchack, "Introduction," *In Meta Morphing: Visual Transformation and the Culture of Quick-Change*, edited by Vivian Sobchack (Minneapolis and London: University of Minnesota Press, 2000), xiv.

<sup>74</sup> "A digitized body is a cultural body. When a human being is digitized, he no longer belongs to organic reality." Dyens, *Metal and Flesh*, 86.

<sup>75</sup> Dyens, *Metal and Flesh*, 85.

<sup>76</sup> "The actor's particular corporeality, his bodily presence, are the conditions which underlie the possibility that dramatic character comes into existence on stage... the dramatic figure which appears on stage as unique cannot be conceived of or perceived without the actor's particular bodily being-in-the-world." Erika Fischer-Lichte, "Embodiment: From Page to Stage: the Dramatic Figure," *Assaph C*, no. 16 (2000): 65-75.

actors including animations, and robotics as well as mix with filters, or scenic and other elements.

When combined with other digital processes such as real-time capture, mixing, Internet broadcast, or motion activated triggers, this data can be used to create exciting and new innovative imaginings. Because of this flexibility, digital video is present as a core aspect in a number of Digital Theatre productions. It is a good foundation from which to build our understanding of the tools of Digital Theatre as applied to the themes explored in this work. It will be discussed only briefly here, leaving the exploration of it in relation to other digital elements for future sections and chapters.

Many of the works of the New York-based theatre group The Builder's Association contain digital video. Some of their works include, *Alladeen* (covered in the Place/Illusion chapter), *X-travaganza* (featuring old film clips and extravagant Busby Berkley numbers), *Jump-Cut (Faust)*, and *Jet Lag*. In *Jump-Cut (Faust)*, the space is bisected horizontally, half for the living actor and half for their mediated image.<sup>77</sup> The live actor's faces are blown up on three screens amplifying their gestures and throwing their bodies into visual conversation with their projected faces (reminiscent of news media talking heads<sup>78</sup>). As one reviewer wrote about the visual dialogue that develops from the onstage relationship between mediated and "live" bodies:

The film clarifies itself as it sheds light on the performance, revealing the radical difference of live bodies. To produce their own images, the actors are placed into the electronic straight jacket imposed by the constraints of

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<sup>77</sup> This type of staging also occurs in *Alladeen*.

<sup>78</sup> "This device (the screens) commonly used for concerts or political meetings finds itself fundamentally changed when one enters into this scripted tale which is punctuated by selected moments of Murnau's *Faust*. *Jump Cut (Faust)* is first and foremost a reflection on the art of tricks and editing, a systematic exploration of the possible combinations of film(video) and theater." *Le Monde*, Review of *Jump Cut (Faust)*, March 25, 1998.

framing, lighting and focus. They are prisoners of the slightest motion, which finds itself a thousand times magnified on the screen.<sup>79</sup>

In a sense the “live” bodies are shown as controlled by media-set boundaries and are captive (as is the audience) to the necessities of our own creation, the self-perpetuating needs of the hyper-real.<sup>80</sup> In one half of *Jet Lag*, another of their productions, the story of a yachtsman lost at sea also takes place through video and within the debate between real and hyperreal.<sup>81</sup> In the production, the lost sailor creates a video log for public consumption.<sup>82</sup> The Builder’s Association staged the mental decline of the man as he fell victim to his own hopeless hoax in order to fuel the media hallucination of the hyper-real. The actor is on stage directly in front of the screen showing his real-time recorded journal, his image body, along with a larger screen that showed the composite of his image into his fictional mediatized location and weather conditions. As reporter Jonathan Romney commented, “The show uses the disparities between live acting and on-screen effects to explore different kinds of time lags and lapses...the gap between real time acting and life filtered through the media.”<sup>83</sup> The Builder’s Association website noted that “In Crowhurst's world of faked geography, his location and identity are manufactured solely through his representations for and by the media.”<sup>84</sup> In this

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<sup>79</sup> *Le Monde*, Review of *Jump Cut (Faust)*, March 25, 1998.

<sup>80</sup> See Andy Lavender, “Mise en Scene, Hypermediacy and the Sensorium,” in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 55-66 (Amsterdam and New York: Rodopi, 2006), 62-63.

<sup>81</sup> The Builders Association, “Jet Lag,” <http://www.thebuildersassociation.org/>; The Builders Association, “Performance Excerpts 1994-2002: *Xtravaganza, Jetlag, Jump Cut (Faust), Imperial Motel (Faust), Master Builder*, VHS, Directed by Marianne Weems.

<sup>82</sup> Jonathan Romney, “Oceans of Time,” *The Guardian*, July 8, 2000.

<sup>83</sup> Jonathan Romney, “Oceans of Time,” *The Guardian*, July 8, 2000.

<sup>84</sup> The Builders Association, “Jet Lag,” <http://www.thebuildersassociation.org/>.

performance the character's "live" body loses its life to the perpetuation of the immortal and fictional image body.

As the next section reveals, the digital other has evolved away from the photo-realistic image body as seen in video. It becomes instead something more plastic and more puppet-like in the form of 3D animated avatars. Leading into my discussion, today's digital puppet provides some background, essential to our conversation about the difference duet between live actors and media puppets.

### **Historical Background: The Puppet and the Über-Marionette**

The clockwork man which strikes the hours, the doll which cries 'Mama!' when tilted forward, the puppet which obeys the will of an unseen hand, all testify to man's delight in creating imitations of himself. In every instance the creator hopes that his imitation will convince by fidelity to its model, and that it will be accorded the highest compliment a mechanical doll, a puppet or a marionette can evoke—the exclamation, 'It seems to be alive!'...the puppet forfeits its claim on our attention if it is not imbued with the mystery of the non-human being magically possessed of human attributes.<sup>85</sup>

Perhaps the earliest and clearest form of non-human actors is puppets. Puppets are tools of communication, intermediaries between ideas and their communicative distribution. They have acted for centuries as conduits or devices for the indirect communication of ideas.<sup>86</sup> In a sense, they share with computers the nature of being a tool for the production and communication of ideas. The human body of the actor also

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<sup>85</sup> Donald Keene, *Bunraku: The Art of the Japanese Puppet Theatre* (New York: Kodansha International, Ltd., 1973), 13.

<sup>86</sup> "...the power of the figure brought to life by his human creator is still more believable than his human competitors and gives new exercise to the human imagination... (the puppet) continues to emerge serene and unperturbed by all that transpires around him." Ralph Chessé, *The Marionette Actor* (Fairfax, Virginia: George Mason University Press, 1987), 67-68.

functions as a sign and a symbol processor/manufacture of meanings. Meike Wagner writes: “However, the puppet body carries at its core the artificiality of the other that is its first principle of existence.”<sup>87</sup>

When the puppet stands in for the actor, a substitution takes place which can simultaneously create a sense of *différance* and alienation, and also connection and empathy.

This idea of corporeality as Derridean *différance* can be linked here to contemporary puppetry, which in the interplay of materiality and performance, crystallizes for a moment fleeting and passing bodies. What we have seen so far is that the body is part of the process when its gaze meets that of other bodies. The artificial object body, the puppet body on stage, decentres my own bodily perception in particular. I recognize obviously a human-like body, animated and moving like people are animated and move. However, the puppet body carries at its core *the artificiality of the other* that is its first principle of existence.<sup>88</sup>

Puppets demonstrate a simultaneous likeness and disparate nature to the human body. Their resemblance of human shaped puppets to recognizable forms allows them to convey messages and elicit emotions while they surpass or do feats unfeasible for embodied human actors.<sup>89</sup> Their scale, the facial stiffness, the poetic gestures, and the seeming removal or delay of natural laws such as gravity, make puppets uniquely suited to simultaneously standing in for, and standing apart from what is human. Like a distancing reflecting-glass, they mirror, make strange, and magnify human behaviors.

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<sup>87</sup> Meike Wagner, “Of Other Bodies: The Intermedial Gaze in Theatre,” in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 125-136 (Amsterdam and New York: Rodopi, 2006), 131.

<sup>88</sup> Meike Wagner, “Of Other Bodies: The Intermedial Gaze in Theatre,” in *Intermediality in Theatre and Performance*, edited by Freda Chapple and Chiel Kattenbelt, 125-136 (Amsterdam and New York: Rodopi, 2006), 131.

<sup>89</sup> “Miracles, prodigies of speed, sudden transformations, and defiance of the law of gravity or the weight of numbers are all easily within the puppets' abilities, but they cannot sit still for long.” Keene, *Bunraku*, 14.

When the puppet stands next to an actor, the impact of *différance* is heightened. One or both is seen as the “other.” This moment of contrast between flesh and form informs our perception of both actor and non-human actor.<sup>90</sup> This is the type of interaction we can look for in Digital Theatre productions where both are present “on stage.”<sup>91</sup>

### **Edward Gordon Craig**

Edward Gordon Craig wrote of the *über-marionette*, a super-actor, unfettered by the emotional instability and imperfections of the human actor’s fallible craft.<sup>92</sup> This ideal puppet directly communicated for the playwright (puppeteer) without interpretation or contamination of the originating artist’s ideas.<sup>93</sup> Craig promoted the superiority of the puppet as an expressive tool, and while many believed he meant to replace the human actor with the non-human actor, Craig eventually conceded that some technically trained

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<sup>90</sup> Some would argue that automatons do not fit into the category “puppet,” which is why, for the most part, I refer to “non-human actors,” rather than “digital puppets,” and thus allow for the inclusion of today’s robotic actors descended from a long line of mechanized automatons. “Automatas Puppets...are not usually regarded as good puppet forms. They work with automatic controls of some sort, and do not really create a puppeteer-puppet feeling of freedom.” Frances J. Crothers, *The Puppeteer’s Library Guide, Vol. 2, The Puppet as an Educator*, (Metuchen, NJ, and London: The Scarecrow Press, Inc., 1983), 9.

<sup>91</sup> “A third idea using puppets and actors simultaneous, had been suggested by Craig for one point in the Moscow Hamlet. It provides a good illustration of the imaginative symbolic use of inanimate figures that he was envisaging...” As puppet advances down hallway he grows by substituting larger puppets until actor playing Polonius takes the place of the life-size figure. Christopher Innes, *Edward Gordon Craig: A Vision of Theatre* (Ontario: York University, 1998), 187.

<sup>92</sup> “The actor must go, and in his place comes the inanimate figure—the ‘Über-marionette.’” Edward Gordon Craig, *On the Art of the Theatre* (New York: Theatre Arts Books, 1956), 81; “No longer would there be a living figure to confuse us into connecting actuality and art; no longer a living figure in which the weakness and tremors of the flesh were perceptible.” Craig, *On the Art of the Theatre*, 81.

<sup>93</sup> “There is only one actor- nay, one man- who has the soul of the dramatic poet, and who has ever served as true and loyal interpreter of the poet. This is the Marionette.” Edward Gordon Craig, *The Theatre Advancing* (New York: Benjamin Blom, Inc., 1963), 107.

actors using symbolic gestures were sufficient.<sup>94</sup> Nonetheless, it is his suggestion of an über-marionette which remains in the scholarly mental collective, as a sort of image imprint for the non-human actor; an unfeeling being which executes directives with exacting grace.<sup>95</sup> This is the ideological source or primary modern model for the digital puppet. It is the apparition of the über-marionette which stands in contrast to the living, breathing actor and provides us with an essential dichotomy between infallibility and flesh. It is the cold form to which the fiery body may react and rebel.

Craig wrote,

accident is an enemy of the artist...in order to make any work of art it is clear we may only work in those materials with which we can *calculate*.<sup>96</sup> Man is not one of these materials. The whole nature of man tends towards freedom...The actions of the actor's body, the expression of his face, the sounds of his voice, all are at the mercy of the winds of his emotions.<sup>97</sup>

Clearly Craig is contrasting the obedience of the artist's tool (the calculably controlled digital puppet) with the uncontrollable emotional, free and living actor. It is this dichotomous relationship seen on stage which brings out the difference between the nature of the "live" actor and the computer-generated or mechanized being in a way which might aid our understanding of our social times.

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<sup>94</sup> Craig, *On the Art of the Theatre*, 61; Such as Stanislavski's, and especially Asian performers who communicated through precise gestures and symbols, like the Balinese dancers who inspired Artaud to talk about alphabet of symbols. Artaud, *The Theater and its Double*, 68-73.

<sup>95</sup> Craig intended to bring the two together on stage. Innes, *Edward Gordon Craig: A Vision of Theatre*, 187.

<sup>96</sup> This is my emphasis, which is to indicate the similarity of his words with computing.

<sup>97</sup> Craig, *On the Art of the Theatre*, 56.

Craig was prescient when he described the basic nature of computing (flexibility) and the fluidity of information converted into digital data<sup>98</sup> when he wrote in support of Symbolism:

...not only is Symbolism at the roots of all art, it is at the roots of all life, it is only by means of symbols that life becomes possible for us, we employ them all the time. The letters of the alphabet are symbols, a chemistry and mathematics employ them. All coins of the world are symbols, and businessmen rely upon them. The crown and the scepter of kings... The works of poets and painters... music... all forms of salutation and leave-taking are symbolic and use symbols.<sup>99</sup>

In this age of digital symbols, it is the digital puppet who offers us an inanimate figure as a contrast between the body and its symbol. Craig once wrote, “What the wires of the Über-Marionette shall be, what shall guide him, who can say? I do not believe in the mechanical, nor in the material. The wires which stretch from Divinity to the soul of the poet are wires which might command him.”<sup>100</sup> Perhaps these wires are now digital.

Updating Craig, one might note that in some cases this new puppet is made, “as we will,” out of light, triggered by digital input and stands in contrast as the “other” to the actor’s human abilities and bodily forms. Furthermore, in some cases (where computer programs are emulating Artificial Intelligence) it *does* “pretend to be flesh and blood.”<sup>101</sup> When Craig’s fictional actor responds in debate that it would be terrible to be as exact and controllable as a puppet, this fictional character can be seen as making a case for

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<sup>98</sup> Which reduces symbols down to exchangeable data of zeros and ones, off and on.

<sup>99</sup> Craig, *On the Art of the Theatre*, 294. If one perceives the word “symbol” as an inherent variable (a place-holder concept for something “solid” or recognizable) and replaces this word in Craig’s quote above with the word “data,” you have reached the digital age. In a sense, Craig touches at the heart of our mutable world as conceived through a technology of ever-shifting digitized symbols.

<sup>100</sup> Craig, *Theatre Advancing*, 110.

<sup>101</sup> Craig, *The Theatre Advancing*, 109.



today's "live" human actor shown in dialogue with the digital puppet on stage.<sup>102</sup> One still moves with deathlike grace and obedience and the other is a living, breathing, fallible beauty. It is in their difference from one another that each shows its unique value and inherent qualities. Today's über-marionette is the avatar, a rendering of computer animation.<sup>103</sup> It is the avatar and 3D animation who steps forward most compellingly from its place in the public imagination onto the boards of the digitally-enabled stage.

### **Futurist and Bauhaus Puppets**

Both Futurist and Bauhaus artists suggested or experimented with puppets or other objects as actors and responded to the ideas of Craig's über-marionette.<sup>104</sup> Russian Futurist Valeri Bryusov demanded that they "replace actors with mechanized dolls, into each of which a phonograph shall be built."<sup>105</sup> This would be a possible form of the über-marionette proposed by Craig and a precursor to robotic actors as discussed in the following sections. On the stage aesthetic of Bauhaus, Harold B. Segel writes, "Viewed in terms of concrete theatrical events, the theater of the Bauhaus took the form essentially

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<sup>102</sup> "If you could make your body into a machine or into a dead piece of material such as clay; and if it could obey you in every movement for the entire space of time it was before the audience... you would have executed to perfection; and that which you had executed could be repeated time after time..." Argument of artist to which actor responds "you paint a terrible picture before me." Craig, *On the Art of the Theatre*, 71.

<sup>103</sup> The avatar: this flexible form has grown in significance, reining in the public imagination in the realm of video games, animated movies, in online environments, and now in television programming. "Its distinctness [the avatar's] lies in the relationship between the human player's organic ego...and the digital representation shown on the computer or game console screen." Ben Fissler, "Digital Extensions and Performed Players: A Theoretical Model for the Video/Computer Game," 3-4.

<sup>104</sup> As in the Futurist play *Plastic Dances*, for example. Kirby, *Futurist Performance*, 105; Bauhaus: "The Theater of the Bauhaus, 'Theater, Circus, Variety.'" In one section of his essay Moholy-Nagy speaks of the need for what he called the 'mechanized eccentric.'" Harold B. Segel, *Pinocchio's Progeny: Puppets, Marionettes, Automaton, and Robots in Modernist and Avant-Garde Drama* (Baltimore and London: The Johns Hopkins University Press, 1995), 319; See Schlemmer, "Man and Art Figure," 28.

<sup>105</sup> Segel, *Pinocchio's Progeny*, 319.

of a nonverbal, dance-inspired theater of objects—living actors stylized as geometric, often Cubistic shapes, resembling modernistic marionettes and automatons.”<sup>106</sup> In Futurism, machines themselves also become the ideal conveyers of action or main actors, as in the bullet fired from the gun on stage, or the airplane necessary to create aerial theatre.<sup>107</sup> In addition to performances with humans and puppets, both groups experimented with mechanizing costumes, which simplified the human form and contrasted the performer’s bodily flesh with hard, unfeeling materials.

Contrasting the hard, geometric or angular shapes of their mechanized or puppet-like costumes, both Futurist and Bauhaus artists began to suggest a new type of actor, one made of light. Instead of the solid über-marionette, Prampolini proposed new, ethereal, non-human actors.<sup>108</sup> In his *Futurist Scenography* manifesto of 1915, Prampolini claimed that “in the final synthesis, human actors will no longer be tolerated...Lights, sounds, or moving elements may be used to replace the human and to accomplish the task of personification.”<sup>109</sup> He imagined “actor-gases” that would “wriggle and writhe dynamically.”<sup>110</sup> The “actor-gas” is a clear precursor to today’s digital, animated characters. As Steve Dixon notes:

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<sup>106</sup> Segel, *Pinocchio’s Progeny*, 320.

<sup>107</sup> As in the Futurist play, *Detonation* by Francesco Cangiullo. “Character: A Bullet. Road at night, cold, deserted. A minute of silence.—A gunshot. Curtain.” In Kirby, *Futurist Performance*, 247.

<sup>108</sup> “... Prampolini, in both ‘Futurist Scenography’ and ‘Futurist Scenic Atmosphere,’ wrote of the necessity of abolishing the actor. In doing this he was following Edward Gordon Craig who proposed in 1908 that the performer be replaced by a non human (Übermarionette). Even though Prampolini added in ‘Futurist Scenography’ that he also wanted to eliminate ‘today’s super-marionette recommended by recent reformers,’ his ‘actor-gases’ are nothing but a development and refinement of Craig’s concept.” Kirby, *Futurist Performance*, 105.

<sup>109</sup> Kirby, *Futurist Performance*, 91.

<sup>110</sup> Kirby, *Futurist Performance*, 105.

Prampolini's description of the replacement of living actors by luminous forms (1971) is a commonplace in digital performance, through digitally replicated and manipulated human forms, and graphical figures, characters and avatars. Yacov Sharir combines *LifeForms* and *Poser* software to choreograph beautiful virtual dancers which defy gravity to float, pivot and fly through dramatically coloured and rendered three-dimensional virtual spaces. Susan Broadhurst's *Blue Bloodshot Flowers* (2001) features a live performer interacting with an advanced AI avatar in the form of a luminous human head, whose actions and reactions are independent of any real-time human manipulation, and cannot be predicted from performance to performance as 'he' progressively learns and evolves.<sup>111</sup>

Both of these examples of digital puppetry are discussed in this chapter.

Today's version of this ethereal non-human actor is the virtual puppet a "performer in its own right," a product of light, a projected image of pre-recorded video or often 3D animation giving the illusion of presence on stage with the actor.<sup>112</sup>

Animated characters may accompany human actors "on stage" via projection on screens, but their proximity only demonstrates their uniqueness and difference from the flesh.

### **Digital Puppets**

Through the use of digital media in direct conversation (either visually or literally) with the living co-present actor, we can observe the split between hyper-real and real (imaginary and actual). By mentally retracing the human form beside its media rival, we allow ourselves to potentially rediscover the body's meaning as the commonality of human experience and locate ourselves within the larger discussion between the individual self and the pull of our global mediated society. It is the recognition of the co-

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<sup>111</sup> Steve Dixon, "Futurism E-Visited," *Body Space and Technology* 3, no. 2 (2003), <http://people.brunel.ac.uk/bst/vol0302/stevedixon.html>.

<sup>112</sup> "When a performer sings while playing an instrument, the audience does not associate the voice with the instrument but with the singer. The instrument 'accompanies' the singer. By contrast, one would not say that a puppet 'accompanies' a puppeteer. Rather, a puppeteer, such as the actress playing Ariel, gives her voice to the puppet." Saltz, "Live Media, 126.

present, “live” body which links the audience with the actor, the audience with each other, and potentially provides a sense of recognition. The onstage encounters between human and digital other help us define ourselves in relation to hyperreality and navigate a discussion between what we are, what we have created, and what we are becoming.

They are puppets of light; hollow, strange, weightless, and flexible.<sup>113</sup> Sometimes called avatars, animated characters, digibodies, etc. these digital puppets are non-human actors that have surface but no substance, “digitally created bodies a ‘literal hollowness,’ creatures of mathematical persuasion that are as deep as a surface, not as an interior.”<sup>114</sup> Their strangeness comes from their close proximity but not duplication of human physical attributes including unnatural skin color and molded proportions. Author Mary Flanagan writes:

Blurring the real, their perfect bodies are unable to contain the strange eruptions of shiny plastic skin, of green hair, of almost slithering movement. Like melodrama and pornography before them, digibodies must manifest the excess of the perfect in hyperreal ‘bursts.’<sup>115</sup>

These non-human actors are free from conformity to natural laws. They bend, float, and contort in ways unnatural to physical beings. Kimberly Bartosik, a dancer for nine years with Merce Cunningham (user of the LifeForms animation program) writes tellingly about the experience of being a real bodied woman dancing with a weightless, genderless digital dancer. Although she is a dancer and not an actor, Bartosik clearly

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<sup>113</sup> “Without the link to the signified, digibodies are electric phantoms...shells which have no link to the material or physical form of the sign.” Mary Flanagan, “The Bride Stripped Bare to Her Data: Information Flow + Digibodies,” In *Data Made Flesh: Embodying Information*, edited by Robert Mitchell and Phillip Thurtle (New York and London: Routledge, 2004), 177.

<sup>114</sup> Flanagan, “The Bride Stripped Bare to Her Data,” 176.

<sup>115</sup> Flanagan, “The Bride Stripped Bare to Her Data,” 176.

defined the difference between human and non-human digital performers when she wrote:

LifeForms, however, are really only a shape of space: their bodies of colored coil are see-through, their insides empty. They have no blood or organs, no heat, no fragility. No bones or flesh, they are weightless, without mass. Sexless...They are infallible, uninjurable...Perfectly disciplined, they react at the touch of a finger, showing up when the screen is turned on, disappearing when the correct key is pushed...A Lifeform is the perfect silent tool...In all its perfection, however, the Lifeform does lack one element—life. As a live explorer of movement, I continually restate, regenerate life. My life exists in the state of trying, of never knowing, of taking a chance, risking failure. My tool of skin, blood, bone is not like moveable clay, liquid paint, solid cement, or a stable Lifeform. Nature changes me daily. I can never exactly repeat anything; each movement lives only in the time it is executed. I have no rewind or delete button, eraser or white out, any way to alter, perfect that moment.<sup>116</sup>

From reading her words, one can get a sense of the fundamental difference between the non-human performer—which she characterizes as a controllable tool, and the beautiful imperfection of the human element. Still others reflect on the digital performer’s inhuman morphic changes and elastic form.<sup>117</sup>

### **Human/Puppet Performance**

It is important to note that in many traditional instances the puppet and the human actor inform each other. In many cultures which celebrate puppetry there has been cross-fertilization between live and puppet theatre, and occasionally the two types of actors

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<sup>116</sup> Kimberly Bartosik, “Technogenderbody,” *Body Space and Technology* 1, no. 2 (2001), <http://people.brunel.ac.uk/bst/documents/kimberlybartosik.doc>. She also notes that the program extends Cunningham’s choreographic and performance capacity beyond the ability of his physical age (body).

<sup>117</sup> “In relation to the process of human lives, the morph’s effortless and elastic ease at ‘realizing’ itself is deeply uncanny.” Vivian Sobchack, “At the Still Point of the Turning World: Meta-Morphing and Meta-Stasis,” In *Meta Morphing: Visual Transformation and the Culture of Quick-Change*, edited by Vivian Sobchack (Minneapolis and London: University of Minnesota Press, 2000), 144. This also recalls Ariel’s ability to change shapes in *Saltz’s The Tempest*.

(human, and non-human) adopt each other's characteristics and movements.<sup>118</sup> In Java (*wayang kulit* shadow play is joined by *wayang wong*, human shadow puppets) and in Burma, "a dancer's skill is still measured by his ability to imitate the movements of the marionette."<sup>119</sup> According to Noel F. Singer, in Burmese society, dancers

thought it elegant to mimic the movements of their puppet counterparts. To be told that one danced 'like a stringed doll' was extremely complimentary. An expression...proclaimed that 'humans should dance like marionettes and marionettes like humans.' As a result, some of the puppet dances found their way into the repertoire of live dancers...A manipulator, too, borrowed from the live theatre, his only ambition being to make his puppet move with all the grace a human dancer could exhibit...As a result, it is difficult to say precisely who was responsible for inventing a particular style.<sup>120</sup>

This mixing of styles and trading of gestures between human and puppet actors parallels the cyber and cyborg dance of Yacov Sharir. In the following sections on the digital other, I will be talking about Yacov Sharir, *The Tempest*, *Dinosaurus*, and *Blue Bloodshot Flowers*.

### **Yacov Sharir**

Yakov Sharir, a Professor of Dance and Technology at University of Texas, tested a series of wearable computing suits or cybersuits,<sup>121</sup> then created a wired vest to duet

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<sup>118</sup> Bunraku (Doll Theatre) and Kabuki (with human actors) developed along side each other. See Philip Freund, *Oriental Theatre: Drama, Opera, Dance And Puppetry In The Far East (Stage By Stage)* (London: Peter Owen Publishers, 2005), 212.

<sup>119</sup> Currell, *The Complete Book of Puppetry*, 2; Java: Ward Keeler, *Javanese Shadow Puppets* (Singapore, Oxford, New York: Oxford University Press, 1992), 3.

<sup>120</sup> Noel F. Singer, *Burmese Puppets* (Singapore, Oxford, New York: Oxford University Press, 1992), 87.

<sup>121</sup> Which responded to biological stimulus such as EEG and output video and other media. Yacov discussed the Creation of wearable computers to augment performance in some way problem for each of his new wearable projects which included the use of: a control keyboard, devices to collect data from body collects from heart, liver, brain, screens placed in strategic locations on stage, SoftWins – system to detect color movement on stage, SoftVNS used to detects lighting – activate voice light, Bluetooth – wireless technology to be cordlessly connected to wireless keyboard, a tiny motherboard not too heavy to move

with cyber dancers, 3D animations of humans thus becoming what he calls a cyborg dancer.<sup>122</sup> Like other MIDI-wired devices this shows a potentially very fine degree of control of the performer's body over its media environment.

In his work Yacov Sharir is primarily interested in creating a relationship between the human and "cyber-human" performer, exploring what he calls cyborg (technologized human or the media equipped "live" performer) and cyber (or animated non-human other) together in duets.<sup>123</sup> He writes, "Issues of space, time, physicality, and gravity must be visited as the question of how the body is to be represented and inhabited within a virtual space. What is the connection between humans and their representational presence in cyberspace and what, exactly, does it mean to be cyberhuman?"<sup>124</sup> These same questions were just beginning to emerge in the minds of Futurist and Bauhaus theorists decades ago and are now beginning to be answered by Yacov's dances with his digital counterpart.<sup>125</sup>

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around in his suite, motherchip to laptop to projectors, EKG devices applied directly on the skin render of his heart throb control drawing by way of the mouse, and using eye motion to control music. From my lecture notes, summer, 2003.

<sup>122</sup> Describing his work on an early project Sharir said, "You could move your eyes and the image would move, or extend an arm and the image would extend... a dataglove also let me manipulate that material in realtime." Yacov Sharir, and Wei Yei, *Wear Me! Notes 7-12-02* [http://www.futurephysical.org/pages/content/wearable/wearme/info\\_processdemo\\_071202\\_dl\\_yacov.htm](http://www.futurephysical.org/pages/content/wearable/wearme/info_processdemo_071202_dl_yacov.htm).

<sup>123</sup> Sharir and Yei, *Wear Me! Notes 7-12-02*; Notes from SDAT Lecture: "Cyborg-dancer (human with wearables) Cyber-dancer (animated dancer)."

<sup>124</sup> Yacov Sharir, "Body Automatic Body Resistant," <http://www.utexas.edu/cofa/courses/sharir/body.htm>, (no pagination).

<sup>125</sup> "These are the possibilities of Man as Dancer, transformed through costume and moving in space. Yet there is no costume which can suspend the primary limitation of the human form: the law of gravity, to which it is subject. A step is not much longer than a yard, a leap not much higher than two. The center of gravity can be abandoned only momentarily. And only for a second can it endure in a position essentially alien to its natural one, such as a horizontal hovering or soaring." Schlemmer, "Man and Art Figure," 28. In *Hollow Ground II* (1997), and his most recent, *Automated Body Project*...he paired cyberdancers with their human, counterparts and intersected the two spaces in which they moved...He arrived at interesting results regarding the schizophrenic nature of the fragmented self, the duality of virtual



Fig. 1: Sharir seems natural dancing with animations and shapes at SDAT 2004. Photo by author.

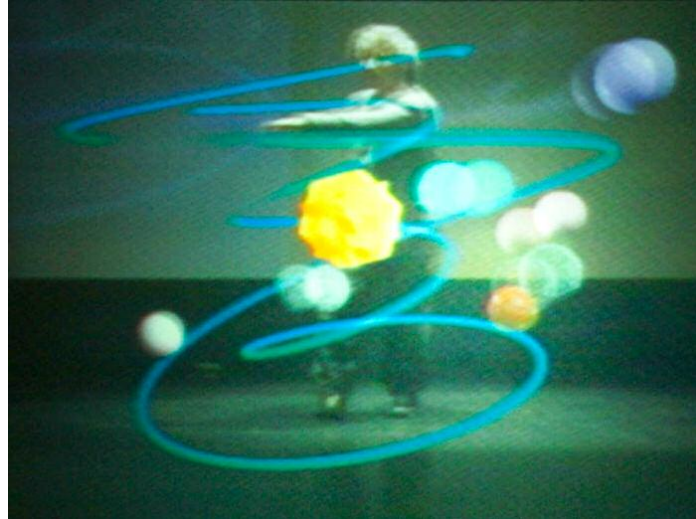


Fig. 2: Sharir dances mixed with one of my animations at SDAT 2004. Photo by author.

In one piece, *Lullaby*, the animated figure floats in an effortless duet with a live human dancer as Sharir controls the position and movements of his androgynous ghostly avatar (his puppet, or cyber-self, animated alter-ego).<sup>126</sup> In many ways he is a media puppeteer, also present in the dance. His choreography examines the ageless, organ-less,

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and real worlds, and the collective identity of virtual and physical interactors.” Berghaus, *Avant-Garde Performance*,” 234.

<sup>126</sup> Yacov Sharir, *Lullaby* shown by Sharir in his SDAT lecture where the screen for the duet was a glass bead 3X3 beaded curtain, giving the appearance that the 2D animation and 3D human shared the same space.



gravity-defining bodies “that will stop at a specified magnification of desired size, speed and astonishing liquidity.”<sup>127</sup>

Perhaps the most astonishing part of his work is that after animating choreography into his cyber-figures and warping their motions, he then teaches his live human dancers to emulate and embody these physically impossible motions.<sup>128</sup> This is an example of the human performer emulating the cyber puppet, a boy emulating Pinocchio (somewhat like the Futurist emulation of machines through costuming<sup>129</sup>), rather than the other way around as in AI works like *Blue Bloodshot Flowers*.

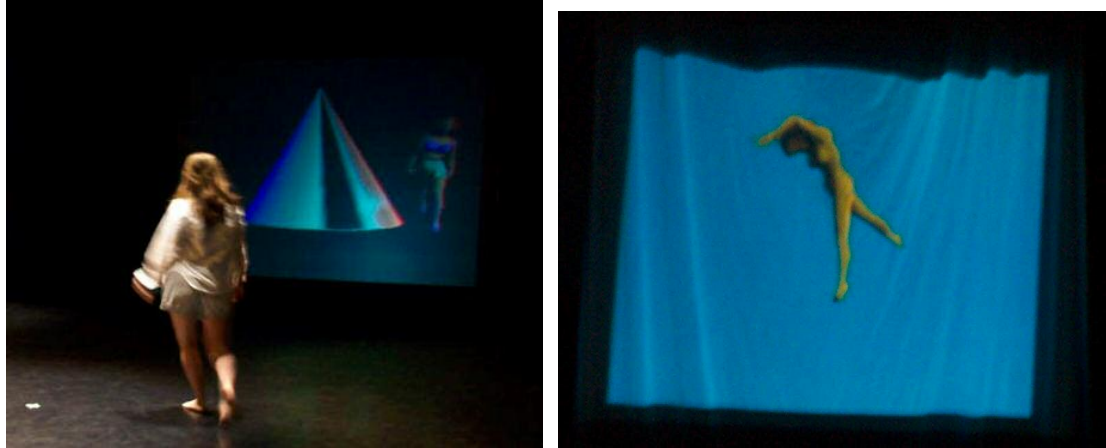
I participated in Sharir’s Summer Dance and Technology workshop, creating forms for “live” dancers to interact with and learning about his technique for distorting humanoid Poser animations to create movements impossible to humans (including a body wave and multiple dislocations and limb distortions), which he would then teach to Apryl Seech, an advanced dancer then in the ASU dance and technology program.

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<sup>127</sup> Sharir “Body Automatic Body Resistant,” (no pagination).

<sup>128</sup> I recall watching technology savvy ASU dancer Apryl Seech working so hard with Yacov trying to find human equivalents or interpretations of clearly non-real world morphs and contortionist-like fluid gestures of his daily animated routines.

<sup>129</sup> Kirby, *Futurist Performance*, 91-119.



*Figs. 3 and 4: Here I am walking with an animation I created in Poser—that the group named a hookerbot—and attempting to mirror her gait, my video image is composited into the dark areas of the geometric shape she walks around. Photos by author.*

I was impressed by Sharir’s sincere efforts to explore new types of both human and non-human performance developing through such choreographic relationships, and I was equally impressed with the dancer’s willingness to try the impossible. Clearly in their partnership (between teacher and his two pupils, the cyber and cyborg dancer) the human body is extended.



*Figs. 5 and 6: Seech and Sharir at SDAT 2004. Photos by author.*

Digital Theatre productions utilizing human actors alongside non-human actors made of light links our present performance back to medieval times where Magic Lanterns were used to create ghouls, devils and other non-human shape-shifters. Spirits, memories, and disembodied or non-human creatures are still favorite choices for digital

characters such as Ariel in *The Tempest* (University of Georgia, 2000) and as dinosaurs in *Dinosaurus* (University of Kansas, 2001).

### ***The Tempest***

In the University of Georgia's Digital Theatre production of the classic work, *The Tempest* (to be discussed in greater detail in a later section of this chapter), Ariel was depicted as both a "live" actress and as a shape shifting animated "sprite"<sup>130</sup> which was a plastic (greenish blue tinted, non-realistic skin) female humanoid with a smooth lithe form and a soft-serve ice-cream swirl for hair. This Digital Theatre work was a unique example in this study, in that through the use of motion capture, the gestures of the human actress were replicated in the gestures of the media other, the digital puppet or avatar.<sup>131</sup> The character's magical and non-human nature was exemplified by the digital medium's ability to shift seamlessly between the humanoid puppet-like forms into other animated objects such as a bee. This malleability of data directly contrasted with the solid body of the human actress, Jennifer Snow, who was primarily stationary; her human body shape was unchanging and her form was caged with wires.

Here is a brief description of digital puppetry exemplified by the actress playing Ariel's control over her animated avatar.

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<sup>130</sup> It is interesting to note that "sprite" is also a multimedia term for an instance or active agent, as in the program Director by Macromedia.

<sup>131</sup> Motion capture data can also fill the stage with the abstract media traces of the human form. The primary example of this is Riverbed's brilliant motion capture collaborations with such dance greats as Merce Cunningham and Bill T Jones, in such pieces as *Ghost Dances* which painted the space with giant projected brush-stroke animations created by dancing bodies. Bebe Miller's recent piece which included the motion capture data of a dancer interpreted as a flock of birds as a human form, also lends a sense of the media-present body as an artistic element. Bebe Miller Company, *Landing/Place*, Ina and Jack Kay Theatre, Clarice Smith Performing Arts Center, University of Maryland, College Park, Maryland, 16 September 2005.

The live actress performed in full view of the audience, with sensors strapped to her head, wrist, elbows, hands, waist, knees and ankles. These sensors transmitted detailed information about the actress' movements to a computer that produced the 3-D animations of Ariel. These real-time animations were projected onto either the large screen behind the sound stage, or onto a smaller screen (4' wide by 5' high) inside Prospero's cell. Voice recognition software matched the actress' phonemes in real-time, allowing the animations' lips to move automatically in synch with the actress' voice. The only aspect of the animated Ariel's performance not directly under the live actress' control was the animation's facial expression, which an offstage operator controlled.<sup>132</sup>

In this example, technology—a magnetic motion capture unit—is a cage or trap which surrounds her human body allowing her only limited movement in space.<sup>133</sup> At the same time as the actress has a new type of creative expression which extends her gestures beyond the immediate physical space in which she moves, throwing or projecting them across the room through the motion captured control over the digital avatar, the character of Ariel is 'strapped' in to the device, trapped in service of the digital magic (machine).<sup>134</sup> Because of the wires which link her to the motion capture device, she appears to be the

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<sup>132</sup> David Z. Saltz in The Digital Performance Archive. [http://dpa.ntu.ac.uk/dpa\\_site/](http://dpa.ntu.ac.uk/dpa_site/) (Digital Research Unit of the Department of Visual and Performing Arts at The Nottingham Trent University and the Media and Performance Research Unit, School of Media, Music and Performance at the University of Salford; accessed November 8, 2002).

<sup>133</sup> "As a result, the production will retain all the spontaneity of live theater, while exploiting the unique capabilities of digital technology to convey Ariel's magic nature. The actor playing Ariel will be trapped in a small cage in full view of the audience, with sensors strapped to her head, wrist, elbows, hands, waist, knees and ankles, and special gloves that will allow for more nuanced control over facial expressions." University Theatre Production Office, University of Georgia. "Tempest 2000 Redefines Live Theater Using Motion Capture Technology." Press Release. February 9, 2000. <http://www.drama.uga.edu/pages/proseason/archive/1999-2000/tempest/press.php>, (no pagination).

<sup>134</sup> "The use of digital media in the IPL production was not merely a technical device for creating stage spectacle. More importantly, it helped demonstrate my view that Prospero's particular brand of magic is rooted in mind control: Prospero, through Ariel, manipulates the other characters' perception of reality. The magic in the play offers a metaphor keenly relevant to our postmodern world, where reality is constantly being remade and 'spun' by a vast media machine. Digital media, in particular, are becoming increasingly potent and pernicious tools, lending an uncanny aura of authenticity to images altered or manufactured out of whole cloth." Saltz, "Live Media," 118.

marionette or puppet of Prospero's technology, at the same time as the wires give her the ability to manipulate the digital puppet.



*Fig. 7: Rehearsal of The Tempest: Jennifer Snow as Ariel and her digital other onscreen (behind her, interacting with Prospero). Photographer unknown*

One reviewer describes the trapped nature of the physical body on the stage in relation to the medium's digitized freedom:

Finally, far stage left was a platform that was Ariel's cage, the spot where the physical body remained as the sound and light system projected the virtual Ariel around the stage. Each time Ariel appeared she would climb to the peak, then enact her role within the production's digital system. The IPL used special equipment and software to create the real-time interactions by picking up data from the motion-capture sensors on the actor's body and relaying that data to the computer animation system. Clearly, the reference in this section of the set was to the cloven pine tree where Sycorax had once imprisoned Ariel; the spirit was still a prisoner, although with some freedom since she was able to send her simulacra, the digital images, to the various screens in the set. The concept—of a caged Ariel unable to break free save through a two-dimensional image projected on a screen—seemed particularly appropriate.<sup>135</sup>

The inherent visual dialogue between the human body of the "live" actress and her ephemeral digital other, her 3D animated avatar, was brought to a climax when Ariel was freed from her high-tech cage at the end of the show and the

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<sup>135</sup> Frances Teague, "The Digital Tempest 2000: Staging Magic," *Shakespeare Bulletin* 19, no. 2 (Spring, 2001), <http://www.shakespeare-bulletin.org/issues/spring01/article-teague.html>, (no pagination).

animated character wilted and dissolved into bits of data without the embodied human to shape and control the flow of information.<sup>136</sup>

According to Dr. Saltz, “Prospero’s magic is a perfect metaphor for contemporary digital media. Prospero creates illusions that everyone else in the play accepts as reality, in much the way that digital media is increasingly shaping and manipulating our perception of reality.”<sup>137</sup> Dr. Saltz noted that at the end of the play when Prospero finally sets Ariel free, “Prospero liberated Ariel by opening her cage and removing the sensors from her body, at which point the actress ran through the audience out of the theatre, leaving Prospero alone in an empty, media-free world, his media ‘magic’ gone.”<sup>138</sup> In this case of Digital Theatre, the dialogue between live body and the mediatized other resolved in a theatrical moment which can be seen as supporting the value of the bodily human as the source of creative and digital meaning. The live body finally rebels and throws off the devices, and dissolves the digital other.

In a sense this piece of Digital Theatre reasserts the primacy of the live human actress, without whom the digital other could not have agency. In a sense, the living body of the actress was demonstrated as the primary being. Snow’s body was indeed a neo-Bakhtinian rebellious body that could both extend its reach through mediation (deftly utilizing the tools of our times) and show its inherent strength and agency by later

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<sup>136</sup> “In the closing moments, Prospero freed Ariel: Marden suddenly bounded across the stage and worked with Snow to undo all the sensors and get her out of the motion-capture suit. Snow then ran off the stage and up the aisle out of the theatre as Marden watched...scramble to free Snow.” Teague, “The Digital Tempest 2000: Staging Magic.”

<sup>137</sup> David Z. Saltz, “*The Tempest (2000)*,” in The Digital Performance Archive, [http://dpa.ntu.ac.uk/dpa\\_site](http://dpa.ntu.ac.uk/dpa_site), (accessed November 8, 2002).

<sup>138</sup> Saltz, “*The Tempest (2000)*,” in The Digital Performance Archive.

throwing off the trap of hyper-reality (the absorption into mediated fantasy as seen in Prospero's animated illusions and his ownership of her digital other).

### ***Dinosaurus***

In the next example of Digital Theatre utilizing animated digital puppets, *Dinosaurus*, a children's theatre piece about experts who discover living dinosaurs in a cave, human actors were enhanced through projections which expanded their physical stature and bulk to the approximate size of dinosaurs. The actor's movements mirrored the animated creatures creating human-dino "hybrid" characters.

By mimicking the lumbering movements of large land animals, the "live" and very much (dually) present actors enacted the dinosaur movements which were projected behind them. While the bodies of actors playing dinosaurs mimic or perhaps enact the motions of the great beasts, their glowing hyper-colored projections seem to walk and fly effortlessly in a surreal dance.<sup>139</sup> What was visible in archival tape of the production was the projected ceiling, walls and floor of a cave complete with stalactites and stalagmites. It was against the darkened void in the center of the cavern that the six foot (plus) tall, brightly colored dinosaur animations moved in concert with the human actors in front of the projection screen. It was as if the actor had grown in stature as one might from wearing a large stilt-like parade puppet (as are used by Bread and Puppet Theatre), and yet, the puppet was made of only light, and the humanity of the performer was not covered by any physical masking but stood beside the puppet, each in full view of the audience.

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<sup>139</sup> Edward Mast, and Lenore Bensinger, *Dinosaurus*, VHS recording of the performance, Directed by Patrick Carriere, Scenography by Mark Reaney, Crafton-Preyer Theatre at the University of Kansas, February 10, 2001.

In the words of Mark Reaney, a leading expert of projection of animated characters and sets, head of VR Theatre Lab at University of Kansas, and creator of the dinosaurs:

Our solution was to combine traditional actors with virtual avatars...Each actor was assigned to play 3 or 4 dinosaurs, delivering their lines, reinforcing their actions and playing the more detailed emotions that were beyond the range of the CGI dinosaurs...On the entrance of a dinosaur character, an actor entered the stage from an upstage entrance near the projection screen and a projected virtual dinosaur would appear on the screen simultaneously. Through the scene, the actor and dinosaur worked together as a team. After much rehearsal, the computer operators were able to move the dinosaurs in close unison with the live actors. Actors learned to modify their movements to accommodate the slow moving dinosaur models and the computer operators learned to move the dinosaurs in ways that were very expressive despite limited mobility...walking, running, and moving the head and neck.<sup>140</sup>

What seems most significant in Reaney's description is the close working relationship between operators and actors and actor and their mediated other, the dinosaur 3D avatars. His suggestion was that the actor and animation worked together (through the technicians) becoming a team. This teamwork could be likened to the multiple agents necessary to create a Bunraku puppet's movements, in this case the actors and technicians play the role of handlers for the digital puppet.<sup>141</sup> Reaney notes the physical adaptation of the human bodies (to the speed of their real-time rendering others), and the avatars' movement adaptations to the limited space of the real world (their usually potentially infinite data fields limited by the projection surface), suggest that a composite character began to evolve between worlds. This composite character was an amalgam of

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<sup>140</sup> Mark Reaney, *Virtual Characters in Theatre Production: Actors and Avatars* (Available from the World Wide Web: <http://www.ukans.edu/~mreaney/reaney/dinos/>), 4.

<sup>141</sup> A traditional form of Japanese puppet theatre in which three onstage operators work as a team to manipulate each three foot puppet with great skill and grace in full view of the audience to the accompaniment of voice and music. For more information see Keene, *Bunraku*, 13-16.



human/projected elements meeting in the visual space (or proximity) between hyperreal and real.

Perhaps one of the most interesting comments from Reaney on the production is his insistence that the co-presence of live actors and media characters gave a “sense of presence”<sup>142</sup> or life to the extinct characters. The actors lent their live bodies to the incarnation of the digitally rendered reptile shapes. Children who watched the show apparently recognized the dinosaur character’s personalities, but not the individual actors who played them.<sup>143</sup> In a sense, the human bodies imbued emotion and life into the reptilian animations and then receded from consciousness. One could look at this hybrid character as the joint product of human and digital other, as a symbiosis of real and hyperreal to reanimate characters from the distant past. This piece of Digital Theatre allows us to see the body beside a very different other, one who is hyperreal, of a different shape, scale, and time. The human actor’s body lent presence (or “liveness”) to imagined forms, and illuminated the presence of an imagined past.

In both of these examples, *Dinosaurous* and *The Tempest*, the actors were physically enmeshed with the animated characters. Because of this physical relationship, the truly non-human über-marionette was not realized, as the human body was still present in the creation of the character. In the following pieces, however, the non-human actor seems to take on more of a life of their own.

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<sup>142</sup> Mark Reaney, *Virtual Characters in Theatre Production*, 4.

<sup>143</sup> Mark Reaney, *Virtual Characters in Theatre Production*, 5.

### ***Blue Bloodshot Flowers***

Perhaps the most intriguing form of computer to human interaction can be seen in theatrical experiments with Artificial Intelligence (AI). In *Blue Bloodshot Flowers*, (Susan Broadhurst and Richard Bowden, 2001) an actress, Elodie Burland, shares the stage with Jeremiah, an entity which might be considered an artificial life form (the quintessence of the hyperreal). Jeremiah is a computer program adapted from a security program which sees via a camera and is designed to recognize and respond to human input (primarily movement). The impression given from the archival footage available online was that Jeremiah perceives these actions in a way which results in his response behaviors or emotions (raised eyebrows etc), which are displayed to the actress—thus engaging her in developing an interactive scene.<sup>144</sup>

Jeremiah is a computer generated animated head based upon Geoface technology. He has a simple bone structure which allows him to express himself and emotions with which he can become angry or sad. But most importantly he has eyes with which he can see. He doesn't only interact but also reacts. In fact he possesses artificial intelligence to the degree that he can demonstrate several emotions as a reaction to visual stimulus. Jeremiah is unique in that he embodies intelligence that is no way prescriptive. Therefore, the performance is a direct interaction between performer or audience and technology.

In a sense Jeremiah, the non-human actor is one thing—the character (as interpreted by the audience) —whereas the human actor is both the actress and the character she plays.<sup>145</sup>

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<sup>144</sup> Richard Bowden, and Sue Broadhurst, *Blue Bloodshot Flowers*, <http://people.brunel.ac.uk/~pfstssb/>.

<sup>145</sup> Sue Broadhurst, "Interaction, Reaction, and Performance: The Human Body Tracking Project," *TDR* 48, no. 4 (Winter 2004): 3.

Jeremiah's image is the display of a large, blue, disembodied face which creates the illusion of emotions (happy, sad, curious, nervous, bored, surprised, etc.). As the actress speaks a rapid rambling poetic monologue and dances around the space in her slip (occasionally throwing or picking up flowers), the digital actor beams; when she leaves, he pines. (His reaction is determined by the general distance or position of Jeremiah's scene partner.)<sup>146</sup> In the theatrical piece, Jeremiah's face is not given clear character but left to the audience to interpret him to represent a lost lover, a child, or other disembodied memory of the young woman (who may be a ghost herself).<sup>147</sup>

It is a poetically simple and beautiful initial exploration into a dramatic dialogue between human and computer beings. This simultaneously complex and pure interchange is encapsulated by the image of the young woman gently stroking the giant blue face as he stares back seemingly longingly at her. In a provocative statement, creator Richard Bowden writes, "People want to believe he is sentient so they make him as real as they want him to be."<sup>148</sup> In a sense this is an anti-über-marionette, for though Jeremiah is free from having a human body, it is sensitive to human emotions, and

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<sup>146</sup> "The emotion engine determines the current state of emotions from simple parameters extracted from objects of interest within the visual field. This simple set of rules allows chaotic behaviour in a similar fashion. For instance, Jeremiah likes visual stimulus – high rates of movement make him happy. He likes company – no stimulus makes him sad. He doesn't like surprises – high rates of change in the size of objects make him surprised. Jeremiah doesn't like to be ignored – if objects exist but don't move then he assumes they are ignoring him and hence gets angry." Broadhurst, "Interaction, Reaction, and Performance," 5.

<sup>147</sup> "When we decided to combine the piece with interactive technology we initially wanted an avatar which would be female and perhaps a child to represent the child of the affair or the inner child. However, this all seemed too literal and when we saw Jeremiah we immediately wanted him in the performance and decided to leave it to the audience on how they would interpret this virtual presence." Broadhurst, "Interaction, Reaction, and Performance," 3.

<sup>148</sup> Richard Bowden, and Sue Broadhurst, *Blue Bloodshot Flowers*, <http://people.brunel.ac.uk/~pfstsb/>.

therefore its uniqueness lies not in its effortless skill but in its ability to border on the human and self-aware.

In addition to a performative demonstration of the Turing Test<sup>149</sup> (a famous suggestion for a test in which a human would be made to guess whether a computer or a human was engaging them in conversation, if the computer could pass for human a certain percentage of the time it could be considered intelligent) it is a depiction of the boundary between human and the true digital other; in Broadhurst's words, the liminal space that is the "sublime of the virtual/physical interface."<sup>150</sup> This production shows a first step toward challenging audiences to accept AI actors and the future possibility of human and computer social interactions.<sup>151</sup> It suggests the question, is a human body necessary for sentience, emotion, and attachment—can computers feel? Jeremiah's creators describe him as naïve, and he becomes bored or even angry when nothing happens to engage him.<sup>152</sup> Though the story suggests a lost love affair, it is the sense of potential relations between the human and disembodied or artificial bodies which is compelling.

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<sup>149</sup> "I propose to consider the question, 'Can machines think?'" A. M. Turing, "Computing Machinery and Intelligence," *Mind* LIX, no. 236 (October, 1950): 433. See also Perkowitz, *Digital People*, 10. See also Gaby Wood, *Edison's Eve: A Magical History of the Quest for Mechanical Life* (New York: Alfred A. Knopf, 2002), Xxv.

<sup>150</sup> Bowden, and Broadhurst, *Blue Bloodshot Flowers*, <http://people.brunel.ac.uk/~pfstssb/>.

<sup>151</sup> "For Richard, the Turing test describes a system as artificially intelligent if a human user cannot distinguish the system from another human in conversation. He is attempting to test this concept of intelligence by providing an interactive human avatar with simple rules and chaotic behaviour. Richard believes the interactivity and human embodiment of Jeremiah is sufficient that individuals see him as a living entity. Therefore, Richard's foremost question is 'How real can Artificial Life become? How do we interact with A' Life?'" Broadhurst, "Interaction, Reaction, and Performance," 5.

<sup>152</sup> "His emotions and interest in the world make him more like a child than a computer system." Bowden, and Broadhurst, *Blue Bloodshot Flowers*, <http://people.brunel.ac.uk/~pfstssb/>.

This Digital Theatre piece asks us to reconsider the humanity or essentially unique (lifelike) quality of our digital creations. Likewise, the text explores the different natures of the two actors as well as the levels of their relationship.<sup>153</sup> Contrasts between organic and non-organic life as well as levels of personal attachment and memory are present throughout the work.<sup>154</sup>

As we move farther into the acceptance of the hyper-real, innovative works such as this one which sets the flesh body against digital computer intelligence, provoke responses in audience members, which previews a larger cultural response which may await us in our future.<sup>155</sup> Broadhurst writes:

One of the most interesting aspects of this project is how much the spectator projects into the avatar. Jeremiah, as we know, is computer technology programmed with some artificial intelligence and has the ability to track humans or objects. However, the interaction with him is anything but objective. Most people when they first see Jeremiah find him fairly spooky. After the initial contact people tend to treat him in the manner of a small child or a family pet and behave accordingly. Usually trying to make him smile and generally please him. His face becomes so sad when he is left alone that it is becomes quite difficult to walk away. Although he is programmed with emotions to react to certain stimuli, he can demonstrate fairly random behavior that can be fairly disruptive

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<sup>153</sup> The following selections from the performance text by Philip Stanier, which I chose to highlight sections indicating a relationship between the living and virtual actors/their characters and give a sense of the piece. "... We were broken down and drained, he more than I. We parted once he left me laid out in the flowers and I loved him for it. This is his corpse what I now make with my tongue, these are his remains raked through, ploughed up, and cried over. His breath rattled, mine he called quiet algebra..." Sue Broadhurst, "Interaction, Reaction, and Performance: The Human Body Tracking Project," *TDR* 48, no. 4 (Winter 2004).

<sup>154</sup> In references to sensation (or lack of sensation, when contrasting skin and arithmetic), perception (the glint of Jeremiah's motion sensing camera eyes), reproduction (cancer paralleling artificial cloning) and death (present in the form of the disembodied non-human puppet-like actor, and in the words of the dead girl). It should be noted the discussion of death and the death-like qualities of the Jeremiah entity invoke Craig's writings on the superiority of the death-like puppet over the living actor. Craig, *On the Art of the Theatre*, 81.

<sup>155</sup> One can watch the audience react to Jeremiah in a pre- or post- show demonstration available online as a video in links from Broadhurst's article or the website: *Blue Bloodshot Flowers*, <http://people.brunel.ac.uk/~pfstssb/>.

during a performance adding a further dimension to experience of working with a virtual body.<sup>156</sup>

Watching the online archival video, two things are clear: one, the genuine surprise of the audience at interacting with Jeremiah in the demonstration, and two, that his keen interest in the live actress during the production is uniquely emotionally compelling. The audience response is telling of our own degree of acceptance of AI and developing non-human entities.

In his article, “Live from Cyberspace: or, I was sitting at my computer this guy appeared he thought I was a bot,” Philip Auslander questions the meaning of liveness, noting acts of creation by digital beings in real-time when digital agents create unique interactions.<sup>157</sup> While Auslander is referring to the creation of text by chat-bots,<sup>158</sup> Jeremiah’s randomized emotive reactions triggered by human actions or in dialogue with human actors, points to the fact that non-human actors are creating something new and in the moment, formerly ascribed only to human performers. This new type of entity creating performative interactions gives us pause to think about the future of the concepts of both aliveness and performance. The sweet, almost romantic co-presence of these human and digital entities on stage, publicly provokes questions (and debate) about the nature of being. This human and non-human interaction bucks against any norm or vision of the individual as a part of the status quo, thus enacting an intimate encounter between the neo-Bakhtian human body of the actress and the facial form of her AI other.

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<sup>156</sup> Broadhurst, “Interaction, Reaction, and Performance,” 4.

<sup>157</sup> Philip Auslander, “Live from Cyberspace: or, I was sitting at my computer this guy appeared he thought I was a bot,” *P&A* 24, no.1 (2002): 16-21.

<sup>158</sup> Which mimic speech patterns like the earlier version psychologist conversation program Eliza created as a demonstration of the Turing Test. For more information, see the CMU Artificial Intelligence Repository at <http://www.cs.cmu.edu/afs/cs/project/ai-repository/ai/areas/classics/eliza/0.html>.

Perhaps the most alien-looking other to set in contrast to the fleshy human form, besides the disembodied head of Jeremiah, is the cold metal form of the robot. Here we see the starkest contrast between human and other. Some terminological and historical background may aid this cursory exploration into how these machines interact with humans in general, and on stage.

## Mechanical Actors

Although the term “robot,” stems from the modern play *R.U.R. (Rossum’s Universal Robots*<sup>159</sup>), the idea of automated creatures is ancient.<sup>160</sup> As Donald Hill writes, the “urge” of “‘man to simulate the world about him’...to impart movement to static simulations and so create automata...man-made organisms, magically endowed with a life of their own, has exercised a powerful fascination” on us for generations.<sup>161</sup>

The idea of mechanical actors can be traced as far back as ancient Greece and the miniature plays staged by Heron of Alexandria.<sup>162</sup> In this section robots are the main

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<sup>159</sup> “The first more-or-less humanoid creations appeared in the 1920s and 1930s (by then, following Carel Capek’s *R.U.R.*, such creations were called ‘robots.’). One early model was displayed in London in 1928. It did not walk but could move its arms, hands, and head, rise from a seat and take a bow, and speak by way of a voice box, although what it said is no longer known. It was animated by an electric motor driving an array of cables and pulleys that the early Greeks would have recognized, with electromagnets providing additional flexibility.” Perkowitz, *Digital People*, 72.

<sup>160</sup> Donald Hill, *A History of Engineering in Classical and Medieval Times*. La Salle, Illinois: Open Court Publishing Company, 1984, 205.

<sup>161</sup> Hill, *A History of Engineering in Classical and Medieval Times*, 199.

<sup>162</sup> Author Sidney Perkowitz gives the clearest definitions of types of human and machine forms, identifying automatons, robots, androids, cyborgs, and bionics. “An automaton is a machine that appears to move spontaneously, although actually it moves ‘under conditions fixed for it, not by it’ according to one definition. A robot is an autonomous or semiautonomous machine made to function like a living entity...It can be humanoid, although not necessarily so; most contemporary robots take nonhuman shapes that are useful for their particular applications. An android is similarly entirely artificial but has been made to look human (the word comes from Greek roots meaning ‘manlike’). A cyborg (cybernetic organism) and a bionic human (from ‘bio logical’ and ‘electronic’) are different from the previous three categories, in that both involve a combination of machine and living parts. A bionic human, on the other hand, is mostly

players in theatrical human machine interactions. Since mechanicals have been around for millennia, one may ask, “why examine performing robots now?” Because, as our technology advances, the perceptual gap between the two (human and non-human entities) decreases, and the frequency with which we encounter these mechanical creations increases. Their potential to interact in our social and biological experience increases exponentially. These interactions can be modeled in Digital Theatre.<sup>163</sup>

Historically, going back to ancient times, these non-human others have been built to fascinate and amuse us by both performing their uniqueness at the same time as they exhibited their similarity to biological systems, imitating natural motion. Some famous examples of these interactions of likeness and difference include a duck, a chess player, and mechanized boys at a writing desk. These demonstrate parallels to biology, the illusion of human skill, and our fascination with mechanical *différance*. In the case Vaucanson’s gilded-copper duck, imitating and exposing the mechanisms of biology—especially digestion—was the essential science and entertainment value of the work.<sup>164</sup> Opening the cavity to expose the grain in process of digestion gave the viewers a look inside a mechanical marvel and perspective on (the magic of) biological processes. Thus the mechanical was a window into the organic.

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natural with a relatively small portion given over to implants or replacement parts such as a heart pacemaker or an artificial limb.” Perkowitz, *Digital People*, 5 (my underlining for clarity).

<sup>163</sup> It has been suggested that Theatre is an excellent test-bed for robotic-social interactions. It helps both robots, and the public become accustomed to each other. See Barry Brian Werger, “Ullanta Performance Robotics,” <http://www.ullanta.com/ullanta/> (accessed October 30, 2006).

<sup>164</sup> “It executed accurately all [a natural bird’s] movements and gestures, it ate and drank with avidity, performed all the quick motions of the head and throat which are peculiar to the living animal, and like it, it muddled the water which it drank with its bill.’ It also quacked. But its most spectacular accomplishment was digestion. The Duck stretches out its neck to take corn out of your hand; swallows it, digests it, and discharges it digested by the usual Passage.” Altick, *The Shows of London*, 65.



Wolfgang von Kempelen invented a chess player automaton which was exhibited from 1783 to 1784 at Burlington Gardens in England.<sup>165</sup> This famous chess-playing cabinet was opened in order to show the gear mechanisms, but it was also a mechanism for deception, falsely convincing the audience of the figure's uncanny ability to resemble a human accomplishing the task of playing chess. Although von Kempelen's chess player was a fake (there was a man in the cabinet moving the game along), the opening of the inner cavity is performed as a demonstration of *différance*, to contrast the illusion of similarity. Here it is the illusion of uncanny disembodied ability which wins the audience.<sup>166</sup>

In the case of the boys writing at a desk, their insides are exposed demonstrating the glory of their *différance*: "While the boys perform their dutiful activities before a small but avid crowd, they are turned to face the wall: their clothes are pulled away and their spines prized open. Inside each child is a moving piece of golden clockwork."<sup>167</sup> In this description their "golden" metal construction (their non-humanity) seems to be as much of interest as their actions. This is a demonstration the audience's interest in the inherent dissimilarity between functions of machine and human.

These ideas of the mechanical as a window into our own biological processes, the uncanny abilities of disembodied entities, and the splendor of mechanical processes demonstrated in these historical examples can be reinterpreted and expanded by the co-presence of the "live" and digitally mechanized in Digital Theatre productions today.

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<sup>165</sup> For a description of the device, see Altick, *The Shows of London*, 68.

<sup>166</sup> Lower half of body replaced by gears.

<sup>167</sup> Wood, *Edison's Eve*, xiii.

In Digital Theatre, interaction is key to performances between human and non-human actors. If today's robots are descended from earlier mechanicals and a product of a continuing urge to animate the inanimate, what is essentially germane today is the continued and perhaps increased impact of their likeness and difference to embodied humans, their difference allowing us to define and understand ourselves.<sup>168</sup>

It has been noted by several of these authors that Plato wrote that “the soul is that which can move itself.”<sup>169</sup> The mechanical can serve as an insight into the flesh: how we live, how we function, how we react, and what we determine is essentially “life” or alive.

Author Gaby Wood writes,

“The definition of the term automaton sheds some light on the insights to be gained by putting the human and the machine on stage as contrasts which inform their respective meanings. (automation) ‘It is either ‘a figure which simulates the action of a living being,’ or conversely, ‘a human being acting mechanically in a monotonous routine.’”<sup>170</sup>

Here we can see ourselves in relation to the other and understand who is more predictable or controlled. I have pointed out elsewhere that new machines have the ability to evoke an emotional response (as Jeremiah did in *Blue Bloodshot Flowers*).

While Cog, Kismet, or AIBO (today's cutting edge mechanized celebrities) are more like characters than copies of nature, they still elicit a response from humans. As author Sidney Perkowitz notes, mechanicals

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<sup>168</sup> “Even a sophisticated modern device, such as the Honda Corporation's ASIMO walking robot, relies on the same mechanical principles the ancient Greeks applied.” Perkowitz, *Digital People*, 52.

<sup>169</sup> Including but not limited to Perkowitz, *Digital People*, 53 and Robert S. Brumbaugh, *Ancient Greek Gadgets and Machines* (Westport, Connecticut: Greenwood Press, 1966), 113. Clearly it is of great importance to us collectively (as demonstrated by this overlapping scholarship), to explore the nature of the human soul or essence in relation to our creations.

<sup>170</sup> Wood, *Edison's Eve*, xix.

“need not work very hard to elicit human reactions. If the creature... can learn—and displays natural-seeming behavior, it can project a well-nigh irresistible impression of life...it’s easy to feel *something* toward the mechanism: amazement that it listens to you or a small rush of affection...if the synthetic being looks like a human...its emotional power is far more intense.”<sup>171</sup>

Kismet, created by Cynthia Breazel of MIT, has the ability to make small-scale, detailed facial moments and thus has an air of human expression and can appear to make eye contact. According to Breazel, “It is night and day when something looks into your eyes verses at your face or just at you. Eye contact is profound.”<sup>172</sup> Digital Theatre is an opportunity, a venue for more people to look into they eyes of the now digital mechanized non-human actor and see if they make eye contact with the future.

### ***Ship’s Detective***

*Ship’s Detective* is a mechanized example of Digital Theatre, part of Starboard.<sup>173</sup>

*Ship’s Detective* uses robotics on stage with actors and thus more fully creates a sense of the mechanized Übermarionette.

In *Ship’s Detective*, a small robotic device (looking much like a Mars rover) played incidental characters. Its appearance is so different from the human body that the two (body and mechanical other) interacting, even with minor roles in a theatrical space, gives one pause to consider future interactions between more articulated anthropomorphic machines and human bodies. There is an implied tension between

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<sup>171</sup> Perkowitz, *Digital People*, 3.

<sup>172</sup> Perkowitz, *Digital People*, 130.

<sup>173</sup> “An ongoing interactive, operatic, serial broadcast drama created by Adrienne Wortzel, partly scripted and partly open to improvisation with ‘joiners’ –in real time, both virtually and live via CU-SeeMe.” Adrienne Wortzel, “Starboard,” [http://www.artnetweb.com/port/grabs/starboard\\_screens.html](http://www.artnetweb.com/port/grabs/starboard_screens.html). CU-SeeMe is a popular Internet videoconferencing tool developed by Cornell University, which is used with web cameras to transmit video, and is also used by other artists like George Coates.

metal and flesh. Unlike robot fights such as Robot Wars, or BattleBots, the human bodies share the performance space with the machines, not on the sidelines hiding from the main action, and the outcome is creative rather than destructive in nature.<sup>174</sup>

Cynthia Breazeal, creator of *Public Anemone Robot* (a installation allowing the public interactive contact with machines) writes, “Live performance with human actors (such as in a theatre) could serve as an equivalent test domain to advance research in autonomous sociable robots.”<sup>175</sup> Digital Theatre potentially helps both robot actors and future robots, and the public, conditioning the two to become accustomed to each other.<sup>176</sup>

In these examples of Digital Theatre human and non-human actors (the mediated video image, the developing AI actor, and the mechanical or robot actor) interacting on stage we can see not only the legacy of automated theatre and the über-marionette, but a reflection of ourselves in the eyes of our creations. Through concurrent difference and

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<sup>174</sup> Robot Wars is a competition involving small remote controlled vehicles, built by engineers, mechanics, and inventors, and equipped with weapons to battle with one another in an arena until only the winner is left operational. Robot Wars, <http://www.robotwars.com>. My personal insight into Robot Wars was gained through an internship in 1997 with creator Marc Thorpe in his Marin County, California office, where I registered contenders. Similar to Robot Wars, but the robot builders are limited to students and mentors, rather than engineers and inventors. BattleBots, [http://www.battlebots.com/news\\_home.asp](http://www.battlebots.com/news_home.asp).

<sup>175</sup> Cynthia Breazeal, Andrew Brooks, Jesse Gray, Matt Hancher, John McBean, Dan Stiehl, and Joshua Strickon, “Interactive Robot Theatre,” *Communications of the ACM* 46, no. 7 (July 2003): 80. She goes on to state: “The script places constraints on the dialogue and interaction. The storyline defines concise test scenarios. The stage constrains the environment, especially if it is equipped with special sensing, communication, or computational infrastructure. More important, such an intelligent stage, with its embedded computing and sensing systems, is a resource that autonomous robotic performers can use to bolster their own ability to perceive and interact with people within the environment. Good actors often say that half of acting is reacting. Hence, a robot actor must be able to act/react in a convincing and compelling manner to the performance of another entity, whether human or robot, as it unfolds.”

<sup>176</sup> “By day, a serpentine, anemone-like creature (called Public Anemone) was awake and carried out its daily ‘chores,’ including ‘watering’ nearby plants, ‘drinking’ from the pond, and ‘bathing’ in the waterfall. It perceived human audience members through a real-time stereo vision system, allowing people to compete for its attention and distract it from the chores.” Breazeal et. al., “Interactive Robot Theatre,” 81.

similarity viewed live, we glimpse our own nature, potentials, and limitations. The next section will continue to explore these themes while collapsing the spatial relationships between human and other by redefining the edges between the body's form and the digital puppet's screen.

## ***Projectionist Costumes***

In this section, I will be discussing the three dimensional living performer's proximity to and interaction to two dimensional projections of digital actors. In addition to placing bodies next to screens, some practitioners attempt to blend the two. By using special screens to mesh 3D performers and 2D screen projections, usually used to create sets, the actor's body shape (or costume) becomes the location of the spectacle of place most often reserved for scenic displays.<sup>177</sup> The following Digital Theatre works I will cover are testing the boundaries between human form and projection surface. Costuming is transformed by media, as the silhouette of the body is changed by the shape of the screen and the layering of characters and selves. Through projection, costume becomes character; characters become an amalgam of screen, projection, and body; and the singularity and primacy of the on-stage body of the actor is challenged.

In this section I will cover projectionist costuming and screen play between performer and projectionist characters and spectacle. In the presentational style of play between human actors and character-filled screens in Mark Reaney's *The Magic Flute*,

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<sup>177</sup> According to Reaney, the necessary gap between 2D set and 3D actors (dating back to perspective sets) is becoming less of an aesthetic issue for current audiences. "For our contemporary generation, a performer standing in front of a flat surface on which are projected still or moving images representing physical places, objects, emotional states of being, psychological manifestations, or any hybrid combination of the above in flagrant violation of previously accepted norms of spatial logic and linear sequence is a 'natural' way to view the world." Delbert Unruh, "Virtual Reality in the Theatre: New Questions about Time and Space," *TD&T* 32, no. 1 (Winter, 1996), 45.

and in Gertrude Stein Repertory Theatre's transformation of the body of the actor into a canvas for projection through costuming and remotely focused projections, and Claudio Pinhanez's experiments with projectionist masks.

### **Screen Play in Mark Reaney's *The Magic Flute***

In many of his works Mark Reaney plays with the interaction between performer and screen. In *The Magic Flute* (and to some extent in the earlier production *Dinosaurous*) there is a sense of physical interaction occurring between the actor's body and digital characters on screens through choreography and blocking.<sup>178</sup> In addition, the line between costume and set is blurred as the bodies of the performers merge with projection surfaces. In *The Magic Flute*, screens are used to hold both non-human actors (3D animated puppets) and aspects of imagined place usually associated with scenic spectacle.

In the blocking by both Reaney and director Delbert Unruh, an attempt is made to integrate the live, three-dimensional performer with the two-dimensional surface of the screen 'containing' the elements of the illusionary 3D animated world. They did this by working virtually (within the animation program) and physically on stage (the position of screens in relation to the actors).

'To create these creature-performers, we needed to experiment with new techniques of projection,' says Reaney. 'In our previous productions, our main objective was to create virtual settings, so we relied on fairly standard arrangements of rectangular rear-projection screens. For *The Magic Flute*, the actors stood alongside the imagery, so we needed

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<sup>178</sup> Also noted by Karen Moltenbrey: "The Magic Flute — which incorporated 3D dragons, sorcerers, and other fantastic creatures — builds on the techniques the group used to create 'digitally enhanced characters,' or synthetic human-performer hybrids...During *The Magic Flute* performance, the group projected digital images onto specially designed costumes, props, and masks." Karen Moltenbrey, "Digital Video...Part I of a two-part series," *Computer Graphics World* 26, no. 11 (December, 2003): 31.

surfaces that would move with the performers and be manipulated by them...The virtual elements, like the actual actors, had an extremely visible role in the opera, as they were projected directly onto the stage. For this setup, the group used a front projector located in the orchestra pit and a rear projector placed upstage. These were trained on six mobile screens that were pushed, pulled, wheeled, or carried by stagehands during the performance.<sup>179</sup>

Not only do these “live” and digital interactions provide amusing and even spectacular effects, they also challenge theatre boundaries such as the locus of the character in the body of the actor (as he stands in close relation to animated non-human actors through the screens). In a sense, the actors perform with and become embedded in—and spatially alike—the projectionist set (and costumes).

Perhaps the most playful and enjoyable part of *The Magic Flute* was the lighthearted interplay between the live actors and the puppet-like screen characters of the dragon, bluebird, and animals. I will call them ‘screen characters,’ because they were composed of both the animated character and the screen on which they were projected, and when this screen was carried by a page or other minor actor, it was in fact a joint product of their movements and spatial reactions as well as the digital animations’.

Reaney expressed his concern for preserving theatrical presence in interactions between live human actors and what he calls “virtual characters.”<sup>180</sup> Reaney wrote that real time “VR provides the spontaneity required of live theatre and even allows for the same elements of risk inherent in traditional theatre...As the motivators of the drama, the

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<sup>179</sup> Moltenbrey, “Digital Video...Part I of a two-part series,” 32.

<sup>180</sup> Reaney on “virtual characters’ which are both live (human) and animated. By using real-time virtual characters in production. Reaney, “Virtual Characters in Theatre Production.”

focus of the action, it is crucial that these virtual characters maintain the standards of live performance.”<sup>181</sup>

Perhaps his solution to earlier attempts to bridge the necessity for the “live” actor’s body to accompany the projected character (in *Dinosaurus*) in order to create a sense of presence between performer and audience is best answered in *The Magic Flute*’s presentational theatrical awareness drawn to the presence of the screens and limitations of the screen-dwelling animated characters. No longer just animated or even virtual characters, they have become screen characters, a combination consisting of animation, the physical screen and often the human actor’s bodily presence. The combination of screens, projectors, and animation programs created a sense of interplay between human and digital non-human actors. The screens “enabled the live actors to traverse the virtual worlds and the synthetic animals to jump and dance, all at the hand of a computer operator using a joystick and keyboard. The live actors, in turn, responded accordingly, interacting in real time with the virtual imagery.”<sup>182</sup>

When I saw the production in 2003, I noticed that when the action began in Reaney’s *The Magic Flute*, a green scaly dragon entered. He was more funny than furious, the animated character making humorous reactions to the audience (and pages), he tilted his head or peered in at the audience from the side of screen. He was Kermit green, had a head with many horns, and holes in his coat of scales showing polygons missing. When the audience clapped for the dragon, he bowed, breathed fire, and lumbered off. He returned, peering around the screen. As the dragon chased Prince

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<sup>181</sup> Mark Reaney, “Virtual Characters in Theatre Production: Actors and Avatars,” speech delivered at VRIC, Virtual Reality International Conference, Laval Virtual (16-18 May, 2001).

<sup>182</sup> Moltenbrey, “Digital Video...Part I of a two-part series,” 32.



Tamino across the stage, the pages had to carry him on a sheet-like projection surface. There was great interplay between the animated and embodied actor (or VR and real interaction). The dragon chased him and was about to pounce on him, but three women killed the dragon and he flew into angular pieces like pixels.<sup>183</sup>



*Fig. 8: Two images of the Dragon from The Magic Flute. Image copyright Steven Hudson-Mairet, used with permission.*

Note in the above description three important aspects: the clever staging of the dragon in relation to the audience, to the live actor, and to the screens. It is made clear through its timely reactions that the dragon is controlled in real-time. His behaviors such as fire breathing, bowing and smiling toothily to the audience seem to be occurring in reaction to actions on stage (the prince) and the audience, giving him a definite sense of personality as a ‘living’ character. But it is the interplay between the animation and the edge between screen world and real world which are most intriguing. The dragon’s movements make him seem aware of the edges of the screen. As he peeks his head around the corner onto the screen, it is as if he is looking through a window where he can now see the stage action. When he is partially off screen it gives the impression that he is

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<sup>183</sup> Nadja Masura, performance notes of *The Magic Flute*, by Wolfgang Amadeus Mozart, at the Crafton-Preyer Theatre, University of Kansas, 26 April, 2003, written notes.

looking in on our world suggesting that he lives in another, virtual realm and can only share the stage through the presence of the screen.

This idea of the projection surface as a marked boundary for the dragon is played with when the pages must pick up and manipulate the position of the screens in order to allow the dragon to chase Tamino. This physical/spatial interaction between the stagehand actors, the lead physical actor, and the virtual character of the dragon becomes a spatial interplay between Tamino and the screen character of dragon-pages-screens.

Reaney describes this interplay between actors, screens, and animated puppets in terms of the edge of illusion and a sense of play and partnership between the audience and the actors (and other elements) in creating the conventions of spectacle in the production.

“‘From the beginning, our intent was to open the edge of the illusion to the audience,’ says Reaney. The technologists took this a step further by hanging the main screens a foot or so off the ground, revealing the legs and feet of the stagehands. ‘By bringing the audience in on the mechanisms of the illusion, they became partners in making the magic. Therefore, the effect became stronger rather than weaker,’ explains Reaney.”<sup>184</sup>

The magical/technological aspect of the virtual character is also emphasized by the missing polygons which reveal the dragon’s 3D modeled light-based frame and his fractured demise leaving only the physical shapes of the empty screens on stage.

Another example of clever interplay between animation and living actors is in the performance given by the screen character of Papagano’s little bluebird.

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<sup>184</sup> Moltenbrey, “Digital Video...Part I of a two-part series,” 32.



Fig. 9: Papageno's bluebird on a small, round screen in *The Magic Flute*  
Image copyright Steven Hudson-Mairet, used with permission.

Papageno chases a funny little plump and comical bluebird (reminiscent of the Pixar animated short film *Birds on a Wire*). The little bird (about a foot to one and a half feet tall) is projected onto a round screen on a pole held by a page. It mimics the shape and movement of Papageno's net playfully, and flies away from Papageno's net.<sup>185</sup>

Moltenbrey writes, "Reaney looked at moving screens, and in *The Magic Flute*, there are six different types, including a 'lollipop' screen, onto which the group projected a bird. Then, a stagehand carried it while running in front of the audience, thus making the bird appear to fly."<sup>186</sup>

The page gives physical presence to the animated character by running with the screen and thus allowing the bird to fly away from the lead character's net. The page provides a moving, reactive projection surface for the bird to be projected on, so not only are the facial and 'body' expressions of the animated character in motion present as

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<sup>185</sup> Nadja Masura, performance notes of *The Magic Flute*, 2003.

<sup>186</sup> Moltenbrey, "Digital Video...Part I of a two-part series," 31.

reactions to his pursuer, but it physically takes up space and the motions of the screen have playful and comic timing through the actor's body.

Later in the production the bluebird returned to the barren mountainside on which Pamino considers suicide. The scene shifts to a mountain in the snow with one craggy tree in the center. The projected animation of the bird 'lands' on a structure held by a page consisting of a tree branch with three small screens attached.



*Figs. 10 and 11: Bluebird on hand-held screens, and screens from The Magic Flute showing the construction of the three-screen branch unit on which multiple birds could be projected. Fig. 10 copyright Steven Hudson-Mairet, used with permission, Fig. 11 photo by author.*

Watching the scene, there seemed to be many layers or levels of reality in play: the page, the tree, the three screens, and the projection of the bird. At the happy conclusion of the scene (Pamina returns to Pamino), the bird is joined by a female bird and several babies, each roosting on one of the clustered multiple screens. This demonstrates that the animated character is not fixed within one screen arrangement.

Multiple animals are also featured on screen during Tamino's flute performance (in Act I, Scene 3). As he plays the flute, three pages with legs and hands visible hold a screen on which four animal heads (an antelope, elephant, monkey, and lion) sing along with him.



Fig. 12: Tamino with animal heads on hand-held screens in *The Magic Flute*, Image copyright Steven Hudson-Mairet, used with permission.

Again the screen has character as the pages dance, and the actors animate the projected character's movements. The most exciting moments of the production include animation and human/computer interaction and play (chases around the stage), as when the pages carry screens to allow projected non-human animated actors to move in space. Here again, there is a playful acknowledgement of the presence of the scenes creating a composite screen character. The total imagined entity is composed of the screen, the animation, and the bodies of the pages (whose feet and hands make up a good part of the stage action).

### **Costume**

Costume is another way in which bodies and characters are expanded by the presence of projections on screens in *The Magic Flute*. The Queen of the Night enters with a star shaped screen crown on her head, parting the woods (both projections and screens) all at once. When the queen is wheeled off, the forest returns. Not only do the screens fly up dramatically for the entrance of the queen, but she has a round screen dedicated to her which looms behind her as a halo or part of her cloak. Fractal patterns in liquid rainbow colors swirl on a round screen behind her.



Fig. 13: *The Queen of the Night in front of her screen in The Magic Flute*  
Image copyright Steven Hudson-Mairet, used with permission.

The screen shape, once associated with the queen’s appearance, becomes part of her silhouette and a physical and visual extension to our experience of her as a character. Part of her total performance is the visual cues which emit from her person in sparks and swirls. When the Queen of the Night reappears later, she bursts through the scenery with a crack of thunder. This is animated with visual spectacle which encompasses both the character’s power and her mood.

The final example of the use of screens to bridge the world of living actor and animated character in Reaney’s *The Magic Flute* is perhaps the least visually successful and the most challenging because it attempts to combine actors with places.<sup>187</sup> The three genies were rolled on stage on a scaffolding or painters cart, with their heads protruding above the top of the screen. Projected into their combined middle, the screen, was a

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<sup>187</sup> These projections did not occur without visual awkwardness. Though these images were an intriguing idea, adding three heads to a white screen with limited mobility with a central projected image was ungainly. As they were wheeled on and off, one had the sense of a carnival photo opportunity cutout through or above which tourists poke their heads and pose as characters from their favorite cartoons. This was an uneasy arrangement between the disembodied actor’s heads and the screen surface—and cumbersome movement and imprecise lighting did not help the projections, bodies, and screens mesh into one convincing screen character. Reaney notes that in live theater, nothing is ever perfect, “especially when it is experimental and you are doing it for the first time.” Mark Reaney quoted by Karen Moltenbrey in “Digital Video...Part I of a two-part series,” 32.

kaleidoscope of swimming, swirling carnival colors. On their shared screen was projected locations, weather, and symbolic elements that furthered the plot (a magic carpet, a flying machine, a cyclone).



*Figs. 14 and 15: The genies in The Magic Flute  
Images copyright Steven Hudson-Mairet, used with permission.*

Perhaps the most intriguing of these projections was the creation of snow, and thus an expansion of the setting, or imaginary place, into the screen character's surface. The genie actor-projection-scaffolding unit is wheeled on in front of the projected backdrop of a castle where snow is falling. The screen-characters mirror the scenery and project a 3D white cloud with snow falling out of it.

In many of these examples from this stunning piece of Digital Theatre, it is the actor who is lending their body to expand the range of the projected non-human actor, giving them the freedom to move via mobile screens about our "live" actually three-dimensional world. However, it can be said that, through close proximity with the non-human actor through the jointure with the screen as screen characters, the pages' emotional or symbolic range is extended beyond human gestures and that the uniqueness of both human and non-human actors is observable through their contrast. The projectionist costume of the Queen of the Night is perhaps the best example of the actor's

body (and emotional or physical) range being extended through projection of media. In the next production projectionist costuming is taken to a stunning level in the form of wearable screens.

### **Projectionist Costumes: Historical Background**

Futurist ideas on scenery can be seen as a unity between set and body—costume elements which blend the two. Their idea of co-penetration of human with the environment sounds like a distant echo of today’s “live” actor immersed in a mediated environment through the tendrils of digital technology. Costumes also served to unite the actor with their scenic environment.<sup>188</sup>

Body screens or projectionist costuming as seen in GSRT’s *The Making of Americans* can be traced back to performances in the 19<sup>th</sup> century. In her article, “Body-screenographies, jumping back to leap forward,” Gretchen Schiller points to the connections between today’s projectionist costumes and their predecessor Loïe Fuller’s performances at the Folies Bergère in Paris in 1892. According to Schiller, Fuller

“extended the figurative body by transforming and choreographing movements with mechanical and electronic techniques and strategies. Fuller attached meters of white fabric to bamboo cane shaped arm extensions to create a screen which enveloped her body. With this screen connected to her arms, she crafted and synchronized undulating flowing movement with coloured light projected onto the fabric.”<sup>189</sup>

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<sup>188</sup> According to Kirby, “Theoretical and practical aspects of Futurist costume design and acting primarily focus around two concepts: the integration of the performer with the setting and what could be called the mechanization of the performer.” Kirby, *Futurist Performance*, 97.

<sup>189</sup> Gretchen Schiller, “Body Screenographies, Jumping Back to Leap Forward,” *Body Space Journal*, University of Brunel, London, England, editor: Dr. Susan Broadhurst, July, 2005.



These techniques can most definitely be seen in Digital Theatre today. Something very like this will be described in collaborative digital performance *Elements* featured the conclusion of this work. Schiller continues,

“Using these techniques Fuller transformed her body into illusions of fire, animals, and flowers. With a team, at times of 27 electricians, Fuller choreographed movement relationships between the moving-body screen and real time projection...she transformed the figurative female body with bodily screenographies into metamorphic and kinaesthetic sculptures...The disappearance of the body of the dancer was necessary so that the screen became itself the expression of the body.”<sup>190</sup>

Here then, is a direct correlation between the creative impulse behind current works of GSRT’s screen-characters which distort the body for the screen image and the “moving-body screen” of the past, the only immediate difference (with the important exception of artistic interpretation/aesthetics) is the digitization of the image source and the use of digitally controlled devices to throw and position the media—images of light. (See Appendix C: Historical Background for Projectionist Costumes.)

### **Wearable Screens in *Making of Americans***

A much closer transition between the body and screens can be seen in the projectionist costuming of the Gertrude Stein Repertory Theatre’s (or GSRT’s) experimental piece *Making of Americans* (by The Gertrude Stein Repertory Theatre, 2002 an ongoing work). One piece of the four-part work, *The Making of Americans, Part II: The Silent Scream of Martha Hersland* was originally staged in Iowa after a residency and workshop at the University of Iowa.<sup>191</sup>

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<sup>190</sup> Schiller, “Body-Screenographies,” (no pagination).

<sup>191</sup> “GSRT’s adaptation of the *Making of Americans* is conceived by...four discrete plays that are continuous and make up one work.” “*The Making of Americans* by Gertrude Stein Adapted by Leon Katz,

In this work costuming becomes a geometric plane which is used to project the verbal landscape suggested by Stein's writings. The actor's body is both present and usurped by the costuming which suggests shapes as well as silhouettes. With a set which was reduced to a raised ramped platform on a grid, costuming became the essential element of spectacle upon which all elements of the world of the fictive reality were played out.<sup>192</sup>



Fig. 16: Stage and screens in *The Making of Americans, Part II: The Silent Scream of Martha Hersland*. Image copyright *The Gertrude Stein Repertory Theatre*, used with permission; costume design by Michael Oberle

Projected images floated into focus on the bodies of the performers, creating a shifting pattern of character and symbolic elements of life (hats, rain coats, words, diagrams, symbols). The projectionist costumes define the silhouettes of the onstage performer's bodies, provide the majority of the visual spectacle as the surface for projections, and are essential to the production and to the creation of digitally layered characters. Dr. Saltz has appropriately categorized their projectionist costumes as

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Directed by Cheryl Faver," *Digital Performance* (Winter 2003), <http://www.digitalperformarance.org/MOAwith%20images.htm> (accessed 23 March 2003).

<sup>192</sup> The cast of eleven co-present actor were blocked on a modular, grid-like stage set, five projectors (one rear and four front, projecting animations onto eight moveable screens.

“Interactive Costumes,” which utilize the “body of the live performer as a canvas for the media.”<sup>193</sup>

I first visited The Gertrude Stein Repertory Theatre in their New York studio in December, 2003 and met with Co-Director Cheryl Faver, Co-Director John Reaves, Costume Designer Michael Oberle and Technical Director Hal Eager. Though what I saw of the archival production tape was limited, I was invited to look at the specially made projectionist costuming and equipment used to create the well placed projections.



Figs. 17, 18, 19, and 20: L to R: Cheryl Faver, Co-Director; John Reaves, Co-Director; Michael Oberle, Costume Designer; Hal Eager, Technical Director. Photos by author.

## Costuming

GSRT’s costumes for *Making of Americans*, designed by Michael Oberle were of a lightweight, white, light-reflecting material, pleated, sewn, and arranged into angular and geometrically shaped coverings which were reminiscent of the simplistic shapes joined to form Bauhaus costuming (as mentioned earlier). Each silhouette contained a series of three-dimensional shapes (which looked as if plucked from a 3D animation tool bar: circles, cones, polygons, diamonds, etc.) stacked on top of each other.

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<sup>193</sup> “*Interactive Costumes*. Interactive costumes invert the relationship established by virtual scenery: while virtual scenery provides a backdrop against which the live actors perform, interactive costumes use the body of the live performer as a canvas for the media. For example, the choreographer Alwin Nikolais painted his dancers with changing patterns of light, and the Gertrude Stein Repertory Company is currently experimenting with the projection of video images on masks...” Saltz, “Live Media,” 124.



*Figs. 21 and 22: Michael Oberle demonstrating one of his designs. Photos by author.*

The costumes had an overall sense of simplicity and utility while clearly giving a sense of mixture between Victorian and Japanese forms. The costumes served the dual purpose of creating distinguishable silhouettes which might allow the audience to identify and label characters by their shapes and serving as projection surfaces.<sup>194</sup> For example, one costume had a hat reminiscent of a woman's garden hat or bee-keeper's bonnet.

But, at the same time as this might make a female character shape recognizable, this same hat serves the purpose of being a flat projection surface when the head is tilted down. Another example of how the costumes were intended to be filled with projected imagery can be seen in the Japanese, kimono-like gown with an accordion cape that when unfurled, extends the actor's silhouette and projection surface greatly.<sup>195</sup>

In addition to extending the projection surface on each actor, the costumes and props were designed so that two or three people can come together to create a continuous

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<sup>194</sup> "The costumes fold and unfold to create different geometries and profiles for the performer." John Reaves, "MOA in Iowa," *Digital Performance* (Summer, 2002).

<sup>195</sup> The Issey Miyake-inspired (pleated) costumes include elements of Victorian costume (hats) and Japanese Kimonos, and feature such designs as a costume with a ten-foot extension from the sleeve to increase the surface area for projection.

projection surface connected to a single character. The costume “becomes a moving mask, a catcher’s mitt to ‘catch’ (images).”<sup>196</sup> Oberle stated that his costumes were in some ways less detailed than conventional productions, “and in some ways...even more critical. It can make the difference between a digital performance essentially being a flat movie projected on a stage, on the one hand; and on the other, the potentially dynamic, 3D and interactive experience that theatre promises.”<sup>197</sup> Costume details such as buttons were substituted for items such as pleats and other flat shapes that could expand projection surfaces.<sup>198</sup>

They also experimented with black and white surfaces and the intensity of projection/lighting, reducing texture as “details of texture became distractions in perceiving the images.”<sup>199</sup> Michael Oberle and Cheryl Faver have gone so far as to say

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<sup>196</sup> Michael Oberle, “Projections and Costume,” *Digital Performance*, (Spring/Summer 2003), [http://archives.digitalperformance.org/archives/Summer2003/costumeproject\\_08\\_2003.htm](http://archives.digitalperformance.org/archives/Summer2003/costumeproject_08_2003.htm) (accessed December, 2003).

<sup>197</sup> Oberle, “Projections and Costume,” (no pagination).

<sup>198</sup> “...dark buttons on a light colored fabric can become a series of mysterious immovable dots...but in general, costume details become unnecessary speed bumps to the perception of meaning...the production’s focus.” Oberle, “Projections and Costume,” (no pagination).

<sup>199</sup> Oberle, “Projections and Costume,” (no pagination).



*Fig. 23: From The Making of Americans, Part II: The Silent Scream of Martha Hersland. Note how the multiple actors serve as a surface for the projection of one image. Image copyright The Gertrude Stein Repertory Theatre, used with permission; costume design by Michael Oberle*

that not only are the costumes a “playing space for character,” the costumes *are* the character.<sup>200</sup> In fact, the costumes came from the script and were built before the characters were cast, and because of the height problem with the actors, they had to switch the actor and keep the costume. Perhaps this explains Michael’s statement that “costumes are the Character, and the actors are replaceable.”<sup>201</sup> It is through costuming that the characters are seen, often projected onto the bodies of other actors or in relation to projected objects.

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<sup>200</sup> “Costumes are your entire character.” Oberle, “Projections and Costume.” Also, Cheryl Faver in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>201</sup> Michael Oberle, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

## Projection

“Projection is the performance.”<sup>202</sup> This is one of the statements GSRT made about the production. Yet the team insists that everything called for comes from the script or story; the projected umbrellas, lips, the father’s hat, everything. Themes of duality, multiplicity and piecemeal identity were achieved primarily through the projections of images, live and pre-recorded video, and animations.<sup>203</sup> Some of the animations were simplistic looking stick figures with arrows indicating movement as one might find in a chart or ideogram.

According to Technology Director Hal Eagar, graphic and iconic images hold up better in projection versus detailed images like photos. “The story wants something not cartoon-y about depth of personality, depending on what personality (the character has). What worked well were silhouettes. Simple images work, but when broken up they can get muddy.”<sup>204</sup>

According to Eagar, there was a “distinct style for the different worlds of characters. The way they perceive the world was reflected in projection. (This gave a sense of) transition from one to another world. How peoples’ realities match.”<sup>205</sup> For example Alice is a storyteller so her world is “cinematic,” while Stein’s is made up of

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<sup>202</sup> Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>203</sup> Projections I saw shown on the costumes included images such as stick figures animated with arrows indicating the direction of flow, brightly colored items like yellow rain coats, and video. Perhaps the most compelling demonstration was the image of an anatomical body projected on top of an actor’s costume.

<sup>204</sup> Hal Eagar, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>205</sup> Hal Eagar, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

“mapping conceptual diagrams.”<sup>206</sup> According to Eager, much of the costuming comes out of a process of trial and error with attempts to remotely project onto flat structural and mobile screens. It became important to “merge whole space with the virtual elements or one digital (element) stands out.”<sup>207</sup>

While talking to Hal Eagar, he impressed upon me the level of difficulty in getting the images to be clearly projected onto the target surfaces. It was important to have good visibility for the projections, as contrast could be washed out by ambient light.<sup>208</sup> Images needed to be high contrast. There was also a good deal of experimentation not just with controlling and shaping the projection beam, but also dealing with the broken projection surfaces and image type.<sup>209</sup>

The mechanism used to focus the animations and other graphics onto the costumes as the actors moved across the space was a remotely controlled robotic mirror. In addition to scaling the image, they were also able to focus and skew the shape to better fit the intended surface in real time. Hal Eagar demonstrated how images could not only be thrown on specific parts of the costume, but size, angle, and distortion (keying) could be adjusted at computer stations while the performance was in process. Because the actors were three-dimensional forms, GSRT members were still experimenting with the

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<sup>206</sup> Hal Eagar, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>207</sup> Hal Eagar, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>208</sup> Hal Eagar, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>209</sup> Eagar admitted that many of the images were more simplistic than he wanted, and that they were still coming up with image library filled with the correct tone of animation and stills to suit their needs.



colors and shapes which could best be viewed against the existing contours of the body and could thus be easily read by the audience.



*Figs. 24 and 25: Note how the yellow raincoat projection at left reads more clearly than the drawing of the anatomical body projection at right. Costume design by Michael Oberle. Photos by author.*

It seems the group has met their goal to “experiment with projectors in motorized, digitally controlled yokes, in tandem with special costumes designed to provide larger display surfaces for projection, making it easier to integrate projected images with the choreography.”<sup>210</sup> Using the robotic mirror they were able to create the “effect of forty projectors on stage, wheeling around.”<sup>211</sup> We wanted to hit forty spots with four projectors moving with mirrors.”<sup>212</sup>

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<sup>210</sup> Cheryl Faver, “Towards a Digital Stage Architecture: A Long-Term Research Agenda in Digitally-Enabled Theatre,” *IEEE Artful Media*, October-December 2001, 6-9, <http://www.gertstein.org/pdfs/u4artflo.pdf>, (accessed December, 2003), quoted in *Digital Performance* (Winter 2003), <http://www.digitalperformarance.org/index.htm> (accessed January 2003).

<sup>211</sup> By using a robotic mounted mirror connected to computers using DMX talk to the mirror head, they were able to rotate the mirror which bounced the image. This allowed them to create “dynamic spaces” and project video onto mobile 3D surfaces. “Movable projection... allowed us to place a still or



*Figs. 26 and 27: Hardware and software for the robotic mirror and image projection correction program. Photos by author.*

Thus the group continues honing their ability to move “a projected digital video image across the stage in synchronization with a performer’s choreographed movements, coordinating projected images and performers (senders and receivers) without interference.”<sup>213</sup>

### **Layered Characters and Digital Puppetry**

The outcome of these efforts is the creation of layered characters, actualized in the digital puppetry of images projected on the special costumes utilizing the actor’s body as a surface for character (thus both extending and simplifying it physically and expressively in the process).

The GSRT team has been exploring the idea of layered characters such as Stein’s personality composites. The production’s layered spectacle parallels the novel and the

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moving image almost anywhere on the stage, on screens or on the performers themselves.” Reaves, “MOA in Iowa,” (no pagination).

<sup>212</sup> Hal Eagar, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes. Projectors were a product of their for-profit company’s networking. Epson projectors came from the Epson tradeshow, they got three projectors in trade from Epson. Learning Worlds does distance learning, corporate training, and promotional work.

<sup>213</sup> Faver, “Towards a Digital Stage Architecture,” (no pagination).

development of Stein's system for exploring the idea of 'what is a character.'<sup>214</sup> Perhaps more intriguing than the biographical information is GSRT's attempt to stage a visual example of Stein's technique of "personality mapping."<sup>215</sup> The technique is embodied in the character of Martha Hersland who is a composite personality still in the process of being formed.<sup>216</sup> In an article, Faver described this type of character as "a constellation of personality types."<sup>217</sup>

By looking at multiple aspects of character, Stein was able to find similarity among disparate personalities. The production also attempts to map the "continuity of structure of that person" and to probe the makeup of characters in terms of "who we are when," tracing continuities and graphing interconnections.<sup>218</sup> In our meeting, Faver expressed this compositing or layering of character in terms of the "interconnectedness of

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<sup>214</sup> The action is in layers following both Stein and her fictional characters and the progress of Leon Katz who researched Stein's work for fifty years, found Stein's notes on *Making of Americans* in her desk and wrote his autobiography and Gertrude Stein's biography. The piece also includes the character of Stein's companion Alice B. Toklas, a collaborator and personality model for Stein's work.

<sup>215</sup> "Stein... was also experimenting with a new system to depict characters through a series of categories of personality and traits, based on minute observations of more than 600 of her friends, relatives and acquaintances." "Gertrude Stein Meets Video-Game Technology in UI World Premiere," Press Release for *The Making of Americans, Part I: The Silent Scream of Martha Hersland*, released 15 April, 2002, Contact: Winston Barclay, <http://www.uiowa.edu/~ournews/2002/april/0415stein.html>, (accessed December, 2003).

<sup>216</sup> "When Gertrude Stein wrote *Making of Americans*, she was experimenting with a system for diagramming an individual's personality." Maud Kersnowski, "Costume Drama: The Gertrude Stein Repertory Theater Brings One of its Namesake's Novels to Life with Costumes that Double as Video Screens," *Digital Performance* (Winter 2003), [http://archives.digitalperformance.org/archives/winter2003/mertopolis\\_06\\_2002.htm](http://archives.digitalperformance.org/archives/winter2003/mertopolis_06_2002.htm), (accessed January, 2003). Martha Hersland, the main character in GSRT's production is "viewed from the perspective of a character-in-the-making, depicting her not only as a character being created by Stein, but also as a character struggling to be created and made whole." Barclay "Gertrude Stein Meets Video-Game Technology in UI World Premiere," (no pagination).

<sup>217</sup> Faver, "Towards a Digital Stage Architecture," (no pagination).

<sup>218</sup> Cheryl Faver, in "The Search for Digital Theatre," by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

human nature. [Where] this piece [in one person] is similar to this piece [in another].”<sup>219</sup> Faver felt the digital production techniques explored the “layering of things in our lives,” and the mind’s (simultaneous) recognition of other elements, such as past events and memories, during face to face meetings with others.<sup>220</sup> The multiplicity of human nature is expressed through layers of visual memories (video, images), thus extending our perception of the edges of human form and essence.

This process of personality formation is reflected in the staging of the character as a series of fragments of memory projected onto screens throughout the space and onto the actors. The projections function as an inner dialogue for the character adding to the complexity of the character and giving context for his/her behaviors.

“By projecting not only still images, but video of other actors (in real time), you have a rich back-story where ‘You see the whole family scrapbook in front of you... Imagine a world of theater where you can see all the components of a character, both metaphorically and literally – like the overprotective father who wouldn’t let his daughter leave the house.’ To explore that dynamic, a childhood scene between a father and a daughter is projected onto the costume of an on-stage performer. The actor then interacts with the memory, collaborating with the performers in the image as well as those on stage.”<sup>221</sup>

Such projections of people and objects onto actors (as the memory of the father onto the daughter) are examples of digital puppeteering.

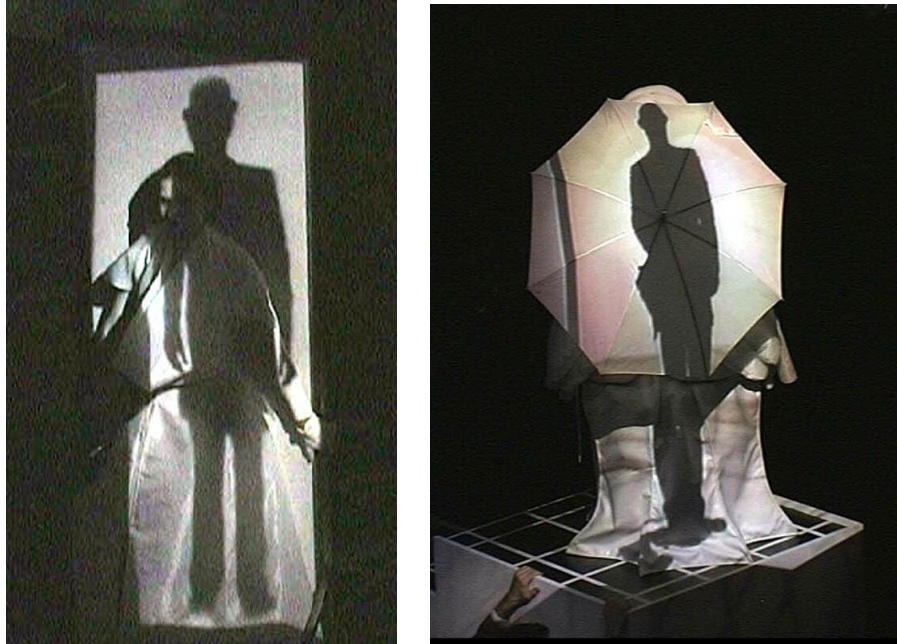
The term digital ‘puppeteering’ was used by the members of GSRT to express the idea of creating a new type of character who is visually the composite of the physical

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<sup>219</sup> Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>220</sup> Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>221</sup> Kersnowski, “Costume Drama,” (no pagination).



*Figs. 28 and 29: Examples of digital puppeteering from The Making of Americans, Part II: The Silent Scream of Martha Hersland. Images copyright The Gertrude Stein Repertory Theatre, used with permission; costume design by Michael Oberle*

actors layered with live and pre-recorded video and images.<sup>222</sup> “Often, human and digital characters are technologically merged, making the ‘actors’ a combination of physical and virtual elements.”<sup>223</sup> This is a projectionist version of cyborg characters, or at least a visual restructuring and layering of bodies. “It’s very much like puppetry,” Oberle says, “only our strings might not be visible because we’re using light.”<sup>224</sup>

The term ‘digital puppetry’ begs the question what is the puppet, the digital projection, or the actor? Has the “live” actor been turned into a puppet or a screen

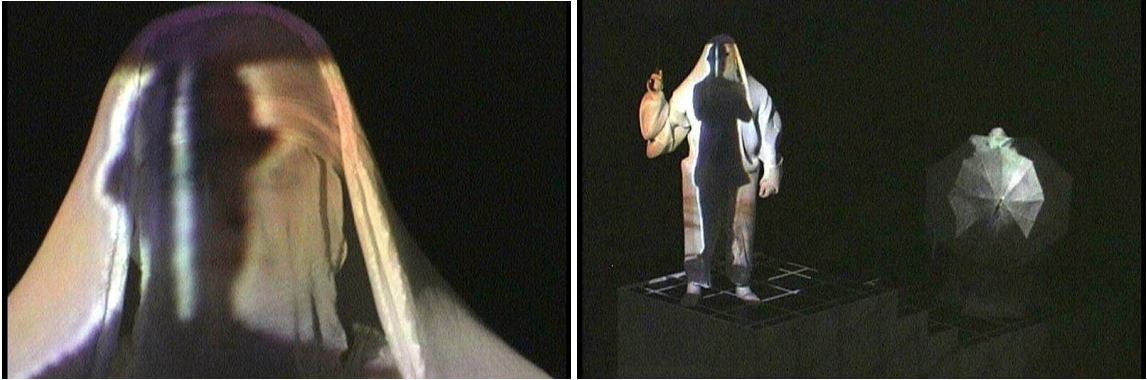
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<sup>222</sup> Barclay, “Gertrude Stein Meets Video-Game Technology in UI World Premiere.”

<sup>223</sup> Barclay, “Gertrude Stein Meets Video-Game Technology in UI World Premiere.”

<sup>224</sup> Michael Oberle, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

surface for the use of digital characters? Perhaps. Most of the “actor-projectors” did not speak, and often “voice and body were not connected.”<sup>225</sup>



*Figs. 30 and 31: From The Making of Americans, Part II: The Silent Scream of Martha Hersland. Note that the actors' shapes are at times subsumed by those of the projected characters. Images copyright The Gertrude Stein Repertory Theatre, used with permission; costume design by Michael Oberle*

Faver described the theatrical experience as being like a “disembodied voice, like in children’s theatre, where there are two parts in movement.”<sup>226</sup> Like the components of voice and body in a puppet show the two aspects are separated. Martha eventually materializes, “speaking at the end as a whole person. Occasionally, one got to use one’s own voice onstage.”<sup>227</sup> Every time Martha talks, there is a fracturing and multiplicity of images turning her into a into a “Oneness and twoness.”<sup>228</sup> In addition to projecting one character onto multiple actors, the ensemble enacted similar gestures.

A series of repetitions as actors on stage (and through projections) “mirror. Lead

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<sup>225</sup> Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>226</sup> Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>227</sup> Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>228</sup> Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

and follow.”<sup>229</sup> Groups of actors repeated words and gestures. For example, three actors performing as aspects of the same identity would say and enact “I throw the umbrella in the mud.” This line was repeated, yelled in a chorus of parts, and projected. “During this scene, the onstage actors are holding umbrellas. While some characters ‘who speak’ are speaking, the main characters are projected onto the umbrellas and other surfaces from off site.”<sup>230</sup>

GSRT depicted Stein’s ideas of ‘human behavior battling out its own nature.’ The visual symbol ‘human’ becomes a signifier. An example is the silhouette of the father projected onto Martha and surfaces around her. His character becomes a disembodied video and animated aspect of her experience. Another example<sup>231</sup> of layering bodies is when in Act One, Eagar tells me, there is a projection of legs running projected onto static actors’ costumes. This simple projection is quite a provocative idea. The motions of one body are lent to the still form of another, so how do we describe the motion or the body of the composite character? How should we describe the importance of the co-present (receiver) actor’s body?

The actor’s body is expanded by the screen-like costumes and it is the sum of the actual and the virtual which create the total character. Faver expressed that on stage, “all

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<sup>229</sup> Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>230</sup> In addition projections of static image of red fern and pieces of the script rolled across screens such as “Feelings, evidence, dread.” Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>231</sup> Reviewer Maud Kersnowski writes, “Even props take on multiple meanings when they are exchanged between the two sets of actors, moving from one layer of a character’s reality to another. For example, a remote actor pours tea from a teapot, which is projected on one of the costumes. The teapot never stops pouring, eventually filling the stage with a sea of tea as projectors douse sets and costumes with brownish lighting and drown the characters in memories.” Kersnowski, “Costume Drama,” (no pagination).

things are equal, and the actor is not the center. He is a part of the stage animation.”<sup>232</sup>

This is fine; however, what struck me most when watching the archival footage of the performance was the way in which the characters appeared hollow and displaced, as actors were serving only as surfaces for the symbols projected upon them (an effect which was likely intended, given the early post-modern content).

The work of GSRT shows a certain attempt to mix set and actor. By allocating the body of the actor as a vehicle for projection and movement in space, they are in a sense mixing the actor’s body with place, making their abstracted, geometric forms the location of visual spectacle and therefore elements of illusionary place. GSRT has replaced the bodies of actors as the embodiment of characters with their new function as moving set pieces in a world of ever-changing verbally constructed perceptual meaning. If one privileges speech or visual imagery (two of the main components of theatre), then it is worth noting that the production also prioritizes the image body (the projected video or images) over the “live” actor who has become (in some instances) the puppet of its virtual other. Other groups like the Actors Theatre of Louisville, Kentucky have also experimented with the idea of projecting video characters or other visual elements on to actors to create composite performers.<sup>233</sup>

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<sup>232</sup> Cheryl Faver, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and interview by author, 7 December 2003, New York, written notes.

<sup>233</sup> Perhaps the earliest precursor to this type of work was the research into “computer theatre” conducted by then graduate student Claudio Pinandez at MIT. His hyper-mask covered the actor’s face with a projection surface which was filled by a computer-cropped video projection of another’s facial gestures. This playful idea, updating the age-old theatrical tool, was tested in performance. This is not your normal mask because it is not just the artistic depiction of human (or other) facial features substituted for the actor’s own features it is in fact a substitution for the actual face of another potentially moving and responding in real time with the subtle plays of emotion that can only wash across the human fine muscles. However, given the prevalence of televised mediated talking heads, something about it suggests a potentially subversive hollowing of personality. The face is perhaps the most expressive tool of the actor, when replaced by the face of another, this presents a haunting image of the bodily displacement of



In the next section it is not the surface shape of the body, but its movement which is the essential interface between computer and flesh. Here we will find examples of the performer's body mapped and extended into space through digital technology.

## **Conclusion**

In the first section of this chapter I discussed the actor performing beside his/her digital other, the non-human actor. The similarity and contrasts between the nature of the living human actor and the digitally controlled media images, avatars, Artificial Intelligence, or robots can be brought before the audience, allowing them to meditate on how these relationships are developing in our society. Through sharing the stage with video, animation, and robot performers, the human actor plays the other to the digital, thus rebelling against the current of compliant consumption of experience into the hyperreal. This dual presence of body and digital information helps us examine our mutual interdependence and development. In theatre involving robots, the metal stands in direct contrast with the flesh. By showing the body and its other, Digital Theatre expands our awareness of our bodies in relation to the hyperreal. In *Jet Lag*, we can see the media in process of creating hyperreal fantasies of the body's location. In *The Tempest* and *Dinosaurus* digital puppets extended the fictive size and shape of the actor's body, allowing the characters to bend and morph in non-human ways.

This relationship between the human body and digital other is continued and complicated by the interplay between the actors and screens creating screen characters and layered characters through the use of hand held screens and projectionist costumes.

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humanity. Barbara Gibson, "Multimedia Macbeth: Three actors play 30 roles in live performance," <http://www.apple.com/hotnews/articles/2002/02/macbeth/>, (accessed December, 2003).

These Digital Theatre works transform the body's silhouette and visual image, merging and transforming the body into something other than purely human or purely digital. Not only is the actor's body transformed or adjusted by the digital, but possibly so are our conceptions of character. In *The Magic Flute*, hand held screens were playgrounds for lively digital puppets. Working within the screen frame of the physical world as carried by pages, they became characters made up of light, flesh, and screen. In *GSRT's Making of Americans*, digital technology blurred the lines between body and screen creating projectionist costumes which in some cases mute (or even erase) the lines of on-stage actors for projectionist characters projected onto them.

The neo-Bakhtinian body or the rebellious flesh of human agents rediscovered can then become a sign of resistance against the dominant media message (often depicting the image-body), much as the generation-spanning visceral body of the people became a symbol of upheaval for Bakhtin. At the same time, this close proximity to media is not without risk. When the living body of the actor is observable as a whole sign in debate with the body-image (the digital actor), it is simultaneously in danger of succumbing to and being flayed open by the camera causing a Sadistic overexposure reminiscent of the Media's excessive love of blood, sex, and bile.<sup>234</sup> This intrusion occurs both symbolically and actually in the case of some extreme performances.<sup>235</sup> Yet

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<sup>234</sup> See Marcel Hénaff, *Sade: The Invention of the Libertine Body* (Minneapolis: University of Minnesota Press, 1999), 3-5. My understanding of Sadism is as a term derived from the excessive libertine writings of the Marquis de Sade in which sexual conquest, rape, defecation, and other means of control over victimized bodies was championed as a reaction against the Enlightenment. This interest in excessive exploitation of the body victimized sexually and physically can be seen in today's Mass Media's increase in sexual, puerile and violent content. See Potter, *On Media Violence*, 25-26.

<sup>235</sup> See my discussion of Stelarc on page 134.

it is the recognition of this present danger which awakens and alerts the audience to the precarious balance of our (neo-global) lives.

## Chapter 3. Body Places

*Very few things are universal... since we are alive, we must have bodies. And, since we have bodies, we must be some place. .. our universals — the body, the body in place, being in place — are actually unique, specific, singular. Paradoxically, then, at the same time that we all have bodies, none of us has the same body as anyone else; conversely, at the same time as we live in a particular place, no place is completely isolated from everywhere else ...Our bodies are unique, yet everyone else has a body too. ..Both bodies and places need to be freed from the logic that says that they are either universal or unique. Instead, it would be better to think of the ways in which bodies and places are understood, how they are made and how they are interrelated, one to the other — because this is how we live our lives — through places, through the body.<sup>1</sup> ~Heidi J. Nast, and Steve Pile*

On the surface, it is easy to differentiate between the body (the biological unit of every human being), and place (or the physical location or environment in which we exist); between actor and stage. However, through the use of digital technology, some performances cause the area between these two categories to blur. Because digitization converts data (including images of people and places) into flexible, manipulable information, ideas and symbols which we readily associate with these two constructs can become mixed and even made interchangeable. The conceptual space between body and place begins to rearrange and perhaps shorten. The following examples of Digital Theatre and performance collapse the subtle interface between body and place in works which challenge the notion of the body as an indivisible and sacred unit.

In the eyes of many, the body is conceived as a whole. One of the *Oxford English Dictionary* definitions of the body is: “The physical or material frame or structure of

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<sup>1</sup> Heidi J Nast, and Steve Pile, “Making Places Bodies,” in *Places Through the Body*, edited by Heidi J. Nast, and Steve Pile, 1-19 (London and New York: Routledge, 1998), 1 (my emphasis).

man or of any other animal; the whole material organism viewed as an organic entity.”<sup>2</sup> But this is beginning to change. Within the last fifty years or so since the birth and steady rise of both bioengineering and computing, terminology and conceptual frameworks between biological and computer systems are beginning to intermingle (such as databases often being referred to as data bodies) and the body is beginning to be seen in terms of information flow.<sup>3</sup> Like the concept of the body, the idea of place is becoming permeable through digitization. As barriers of travel lessen and information sharing increases through technologies such as the Internet, physical and cultural borders are shifting causing the idea of place to be reinterpreted. Harmony Bench notes that “contemporary technology may obliterate the body insofar as technology purports to ‘overcome’ the temporal and physical properties of the human body, but this rather dubious obliteration allows bodies to be multiply present, both here and there.”<sup>4</sup> Thus both place (here and there, near and far) and the body’s presence (made multiple) are effected by technology.

While a later section (regarding community and place) will deal in greater detail with Internet-based collaborations, this section will focus on individual digital performances that make visible the dissolving boundaries between the very private realm

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<sup>2</sup> The OED defines place as “a particular position or location” also “a portion of space occupied by or set aside for someone or something” – indicating the importance between the place and persons, that place exists outside of the human individual and through observation, apart from what is immediately part of the body, our environment.

<sup>3</sup> Phillip Thurtle, and Robert Mitchell, “Introduction: Data Made Flesh: The Material Poiesis of Informatics,” in *Data Made Flesh: Embodying Information*, edited by Robert Mitchell and Phillip Thurtle (New York and London: Routledge, 2004), 1, 4. “. . .body conceived as pure information.” David Thomas, “Feedback and Cybernetics: Reimaging the Body in the Age of the Cyborg,” in *Cyberspace/Cyberbodies/Cyberpunk: Cultures of Technological Embodiment*, edited by Mike Featherstone and Roger Burrows, 21-43, (London: Sage Publications, 1995), 38.

<sup>4</sup> Harmony Bench, “Virtual Embodiment and the Materiality of Images,” *Extensions*, no. 1 (2004).

of the body and the public world of performance, thus intermingling aspects of body and place. While it is true that “skin was once the boundary of the self,” these technologized performers push through this biological barrier, as their performances refuse to stop at skin-deep.<sup>5</sup> The following examples of Digital Theatre demonstrate that the body is a “transitional entity,” the interface between self and the world (the “*place of one’s engagement with the world*”<sup>6</sup>); and traverse the liminal cusp between the internal spaces of individual’s body and the larger world outside.

In this section I will be discussing performances which explore the digitally adapted body as a place of performance or an extended body, including *Minimally Invasive* by Paulo Henrique, *Virtual Dervish*, *Holoman*, and several other performances by Stelarc, *Time Capsule*, *Hungry@Corpos* by Corpos Informáticos, *Telematic Dreaming*, and *Network Touch*. Though many of these works are examples of Digital Theatre, others are digital performances which offer possible Digital Theatre techniques, and all demonstrate an intermingling between public and private, inside and outside, body and technology.

Before discussing these performances, let me return to a brief discussion of ideas which directly impact our expanding perceptions of place and body. Both public and private places are defined by the presence of the human body, and becoming re-defined in light of digital technologies. Likewise the very borders of the body are becoming

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<sup>5</sup> Baz Kershaw, “Curiosity or Contempt: On Spectacle, the Human, and Activism,” *Theatre Journal* 55 (2003): 592.

<sup>6</sup> Lois McNay, *Gender and Agency: Reconfiguring the Subject in Feminist and Social Theory*, (Cambridge: Polity Press, 2000), 33 (my emphasis). “The body is neither pure object, since it is the place of one’s engagement with the world; nor is it pure subject, in that there is always a material residue that resists incorporation into dominant symbolic schema. In Elizabeth Grosz’s words...the body is a ‘transitional entity.’ A lack of corporeal finality arises from a mutual inherence between psychical interior and corporeal exterior where each is constitutive but not reducible to the other.”

permeable when bodies are linked through information technologies, thus demonstrating principles of the neo-Bakhtinian body.

Two contrasting terms which link body and place are “public” and “private.” As previously mentioned, in *The Human Condition*, Arendt defines the public and private spheres of human life.<sup>7</sup> Public is defined in relation to the presence of others in society, public acts are those experiences connected to social interaction and a necessary mutual co-observation. Private on the other hand, refers to the deprivation of social or objective interaction, it as though one does not exist in public life.<sup>8</sup> The positive side of this same idea is that “the four walls of one’s private property offer the only reliable hiding place from the public world.”<sup>9</sup> Private is linked to the safety of the domicile, to what is intimate and bodily.

In Arendt’s definition and in general social practice in many cultures, there is definite distinction drawn between the body’s behavior in public and in private places. The social self is defined in relation to others in a social body, and the private experience of the body is contained within a domicile and associated with intimate bodily issues (such as health and reproduction). The place of the body, or the behaviors of the body are defined through public and private-ness; “equals the distinction between things that

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<sup>7</sup> Public as defined by Arendt means: “first, that everything that appears in public can be seen and heard by everybody and has the widest possible publicity. For us, appearance—something that is being seen and heard by others as well as by ourselves—constitutes reality.” Hannah Arendt, *The Human Condition* (Chicago: The University of Chicago Press, 1958), 50. And second it “signifies the world itself, in so far as it is common to all of us and distinguished from our privately owned place in it.” Hannah Arendt, *The Human Condition*, 52.

<sup>8</sup> Although I am familiar with Habermas’ discussion of the public sphere, I find it too multifaceted for my current topic. I will limit my discussion to Arendt’s terms of public and private to discuss the way they mix. See Jurgen Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*, translated by Thomas Burger (Cambridge, Massachusetts: The MIT Press, 2001), 27-31; and Hannah Arendt, *The Human Condition*, 50-67.

<sup>9</sup> Hannah Arendt, *The Human Condition*, 73.

should be shown and things that should be hidden.”<sup>10</sup> Arendt notes, “it is striking that from the beginning of history to our own time it has always been the bodily part of human existence that needed to be hidden in privacy, all things connected with the necessity of the life process itself...”<sup>11</sup> One state of being is open and the other closed; one covered, the other exposed. As the Marquis de Sade wrote: “Wickedness entails private ideas in the public realm.”<sup>12</sup>

Lucy Sargisson, author of *Utopian Bodies and the Politics of Transgression*, has noted the division between public and private in recent political thought and placed the body historically within the realm of the private.<sup>13</sup> She writes, “The body itself has long been the property of the private sphere. Bodies excrete. Bodies are sensual. The body is the site of voluptuousness, pain and defiance of will. Bodies have babies. Bodies shit and sweat and smell...”<sup>14</sup> These are the very characteristics that Bakhtin encourages with his rebellious grotesque body which overturns expectations and topples official order by performing private acts in public places.

It has been said that “Theatre is perhaps the most public art of all.”<sup>15</sup> It is a rare venue, a place where the (usually private) body is on public display. The strength of

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<sup>10</sup> Hannah Arendt *The Human Condition*, 50.

<sup>11</sup> Hannah Arendt, *The Human Condition*, 72.

<sup>12</sup> Timo Airaksinen, *The Philosophy of the Marquis de Sade*, (London and New York: Routledge, 1995), 182.

<sup>13</sup> “The division of public and private spheres has been found to dominate liberal political thought ...[which] theoretically separated the public from the private and asserted that politics is located in the former.” Lucy Sargisson, *Utopian Bodies and the Politics of Transgression*, (London and New York: Routledge, 2000), 58.

<sup>14</sup> Sargisson, *Utopian Bodies and the Politics of Transgression*, 153.

<sup>15</sup> Frank Whitford, *Bauhaus* (London: Thames and Hudson, 1984), 83.



theater is its ability to create a shared public experience through the co-presence of bodies, on stage and in the audience. And today public and private bodily behaviors and limits are being tested through the addition of Internet technologies.

Just as barriers between public and private places erode in the wake of constant streams of digital information, so are the physical and conceptual walls between inside and outside the body and between the body and its environment loosed by the influx of technology. In *Metal and Flesh*, Ollivier Dyens writes:

The body has been plasticized and commercialized because technological culture has shattered it, forcing it to become, in barely one century's time, a liquid and transparent architecture with overlapping and unstable boundaries...an opening of the body-system, a perversion of the idea of the body as a stable, autonomous, conscious, and living biological entity. In the open body-system, dynamics and structures become unstable and tend to overlap each other, thus preventing any precise definition of the contours and nature of each body...the body-system has been pried open.<sup>16</sup>

Likewise, author David Harvey notes that the body that shapes our view of the world is not a closed entity, but exists in direct relationship to its environment and should be considered porous or permeable to the outside world. "The body which we inhabit and which is for us the irreducible measure of all things is not itself irreducible."<sup>17</sup> These ideas are demonstrated in the performer's body permeated and extended through technology. In his article subtitled "Colonization and the Body/Technology Interface," Kent de Spain writes:

Humans take up space... We are physical beings who exist and move and breathe in space/time. We come to know ourselves and our world through

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<sup>16</sup> Ollivier Dyens, *Metal and Flesh: The Evolution of Man: Technology Takes Over*, Translated by Evan J. Bibbee and Ollivier Dyens (Cambridge and London: The MIT Press, 2001), 81.

<sup>17</sup> David Harvey, *Spaces of Hope*, (Berkeley and Los Angeles: University of California Press, 2000), 98.

embodied experiences and interactions. We talk and think in spatial metaphors... seem compelled to explore and/or colonize to actually place our bodies within any space we become aware of... But in the past few years, the creation of the internet and advances in multimedia technologies have humans interacting with and within what appears to be a different kind of space 'virtual' space or 'digital' space one that is associated not with the physicality of the human body, but with the 'body' of technology, with the machine... what happens there when the human body meets the 'body' of technology?<sup>18</sup>

A good question, one perhaps answered through ongoing experiments in Digital Theatre and performance. Here the language exchange between body and technology is carrying into a clear example of conceptual overlap. Perhaps most importantly, there is a direct connection between Bakhtin's idea of the grotesque body as an open interface with the world and today's digitally networked body as demonstrated by Stelarc (discussed in this chapter). When reading about Stelarc's sharing control of his body with his Internet and his co-present audiences and its transgression between public and private internal and external places involving the body, please recall Bakhtin's prescient words: "Bodies could not be considered for themselves; they represent a material bodily whole and therefore transgressed the limits of their isolation. The private and the universal were still blended."<sup>19</sup>

### ***Historical Precursors: The Private Body on Public Display***

*The body's anatomy was the primary wonder of the wonder of science because it could not be represented without tearing the body*

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<sup>18</sup> Kent DeSpain, "Come in and Make Yourself at Home: Colonization and the Body/Technology Interface," *Body Space and Technology* 2, no. 1 (2001). <http://people.brunel.ac.uk/bst/vol0201/kentdespain.html>.

<sup>19</sup> Mikhail Bakhtin, *Rabelais and His World*, Translated by Hélène Iswolsky (Bloomington and Indianapolis: Indiana University Press, 1984), 24.

*open... When the body was opened, science rushed in.*<sup>20</sup> ~Peggy Phalen

Because theatre is a public art form, requiring the presence of multiple individuals gathered as an audience (usually in a public space), performances which involve bodily acts such as sex and exhibition of other private actions featuring the intimacies of the performer's body have generally been taboo, and characterized as non-mainstream performance. Just as technology has brought risqué performances into the private sphere (as in the case of the billion dollar internet porn industry), it has also stretched our understanding of internal private spaces of the body in public performance. In the golden age of performance art (1980-90s) performance artists such as Karen Finley and Annie Sprinkle explored the internal spaces of their bodies in intimate performance spaces,<sup>21</sup> or as in the case of Chris Burden who in his 1971 dangerous performance art piece *Shoot* allowed his skin to be punctured (by a bullet) in a gallery as a piece of public artmaking thus exploring limits of both public/private responsibility and internal/external space.<sup>22</sup> Today artists working with technology continue the investigation of the interior secrets of the body laid bare, but now the performance space can become ultra-public through

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<sup>20</sup> Live performance and theatre ("art with real bodies"). Peggy Phelan, *Mourning Sex: Performing Public Memories*, (London and New York: Routledge, 1997), 1.

<sup>21</sup> Usually reproductive and excretory orifices. See Donna Ann McAdams, *Caught in the Act* (New York: Aperture, 1996), 2-5, 14.

<sup>22</sup> Burden and his wife recently resigned from their teaching posts when a UCLA student performed Russian Roulette as a class performance piece in the vein of Burden's famous *Shoot*. This is an excellent example of how the mass-media driven cultural consumption of what was avant-garde can turn concept-driven art into meaningless acts of imitation or even shock entertainment. The example shows how concepts can lose their power to communicate anything other than bodily spectacle for entertainment when meaning is appropriated by a media culture which promotes sex, violence, and fear. For example, see: Harold Lee, "[A closer look] Violent art can act as social commentary," *The Daily Bruin*, February 16, 2005. <http://www.dailybruin.ucla.edu/news/2005/feb/16/a-closer-look-violent-art-can-/>.

internet broadcast, and the performer him/herself can lose control over the biological spectacle that is their own body.

Much has been said about Orlan, the performance artist who opens her body up to critical spectatorship, questioning the male gaze, standards of beauty, identity, and the practice of cosmetic surgery in the search for non-existent perfection. She was one of the very first performers to broadcast the internal space (via satellite) and allow the audience beneath her skin. Today her performances may seem like many of the colorful performance antics of the 1980s made less impactful through the passage of time and the rapid acceptance of the Avant-garde, the shocking, into popular culture. With the success of such televised plastic surgery centered entertainment as *Dr. 90210* or *The Swan*, the transmission of gory images of skin pulled back to reveal muscle, fat and bone, has become part of our televisual cultural landscape, part of our image lexicon; still gross, but not Grotesque – more Sadistic than relevantly shocking. These images no longer beg us to question the practice of augmentation, but support it while adding to the visual arsenal of sexual and bloody (arguably violent) flotsam that clogs our media-fed social arteries.<sup>23</sup> Baz Kershaw wrote a notable article on the impossibility of creating shocking performance art when cultural assimilation by mainstream media was so quickly at the heels of each act, consuming, processing, expropriating, and bastardizing these artistic impulses into mindless entertainment fodder.<sup>24</sup> However, as fast as the mainstream

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<sup>23</sup> These include *Fear Factor*, where sexualized contestants compete in feats of brutal strength and sickening consumption of foul flesh.

<sup>24</sup> Also mentioned by performance artist Guillermo Gómez-Peña, and Lisa Wolford, “There Goes the Virtual Neighborhood: A Conversation on Technology, Performance Art and Digital Racism,” *Art Papers* 25, no. 6 (November/December, 2001), 56-61; Baz Kershaw, “Drama in the Performative Society: Theatre at the End of its Tether,” *New Theatre Quarterly* 67, no. 3 (2001), 203-211.

media assimilates the avant-garde, there are still the alternate mediums of theatre and technology (such as internet broadcast).

What Orlan accomplished that remains lasting in her performance, is the live broadcast of her internal spaces to people in distant galleries – to audiences who gathered publicly to watch her acts of private spectacle. By actively gathering to view her inside spaces, these audience members were enacting the extended spectacle of the operating theatre. This crosses a line of acceptable or normal public behavior, as most of us (non-medical practitioners) have so little contact with the body, except from the outside. The public face of our beings is the skin, and the additional layer of clothing. The spirit of these cultural interventions live on in the works of Paulo Henrique and Stelarc as well as other artist performers using Digital Theatre and Internet performance to explore the real cultural demarcations of the body as private and internal, and as social/cultural and public.

### **Dissection**

This is not to suggest that Orlan or other recent performance artists were the first to display the internal workings of the body as an entertainment (and perhaps artform). From ancient times the mysteries of the body have fascinated spectators. From gladiatorial events, to public executions, gore and curiosity have gone hand in hand. In recent centuries dissections and vivisection, and anatomical studies have been forms of popular entertainments.

As a form of punishment, the individual's body (or private self) could be opened before the public. Criminals were given over for dissection, and even vivisection, with

the idea that the suffering of one would assist the many.<sup>25</sup> “Let us not be moved by the *apparent cruelty* that we might believe to exist in this case. A man is nothing compared to the human race; a criminal is less than nothing.”<sup>26</sup> This same sentiment is reflected in digital human project which will be discussed in relation to the Digital Theatre production *Holoman*. The French revolutionary government practiced “doubly useful” executions, which were both scientifically educational and punitive.<sup>27</sup> Likewise, in England, public executions which opened the bodies of murders in public dissections were attended by the general public as a form of entertainment which rivaled theatres for audiences.<sup>28</sup>

The anatomical *theatre* was a “special place” in which the body and its internal mysteries of was the central player.<sup>29</sup> In French’s words, “at the centre of the theatre was the body and those who were to dissect it.”<sup>30</sup> By using a cross-like scaffold for posing the body, they made the body at once both the main attraction and the playing space for

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<sup>25</sup> James A. Steintrager, *Cruel Delight: Enlightenment Culture and the Inhuman*, (Bloomington and Indianapolis: Indiana University Press: 2004), 118.

<sup>26</sup> Steintrager, *Cruel Delight*, 118.

<sup>27</sup> Steintrager, *Cruel Delight*, 119. According to author James A. Steintrager, in his *Encyclopedia*, Diderot defended the dissection of corpses and live bodies, saying: “‘We must,’ they say, ‘open up cadavers, examine the viscera, search through the entrails, study even the most insensible parts of the animal.’ And one cannot too highly praise the courage of Herophilus and Erasistratus, who received criminals and dissected them alive, as well as the wisdom of the princes who handed them over and who sacrificed a small number of wicked men for the preservation of a multitude of innocents of every station, every age, and for all the centuries to come.” Denis Diderot in Steintrager, *Cruel Delight*, 116.

<sup>28</sup> See Harold Schechter, *Savage Pastimes: A Cultural History of Violent Entertainment*, (New York: St. Martin’s Press, 2005), 107.

<sup>29</sup> Roger French, *Dissection and Vivisection in the European Renaissance*, (Aldershot: Ashgate, 1999), 78.

<sup>30</sup> French, *Dissection and Vivisection in the European Renaissance*, 78.

those acting upon it.<sup>31</sup> Thus, the usually private and hidden workings of the body, publicly displayed, became the subject of semi-theatrical events with actors, directors, a script, and stage spectacle.<sup>32</sup>

When this now public and externalized biological body was displayed it became the site of action, more set than player, more place than person. Similarly, digital performances which open the body to the audience allow the body to become the sites of public spectacle. However, through digital technology, today's performative vivisections are not fatal and the body on display remains capable of performing as it is performed on. This digitally breached body can still behave as an actor with agency; the body can be at once both place and player (without the loss of life).<sup>33</sup>

Likewise, transparent waxwork figures which once offered spectators a view into the internal workings of the body, offer a model for today's digital body performances. Public displays of the Anatomy could be seen in the Parisian and Florentine Venus figures allowed the 18<sup>th</sup> century public in London and other metropolitan areas to view the working of the human circulation system and major organs.<sup>34</sup> This tradition of gazing inside the anatomical model lives on today in the "Body Worlds" exhibit of posed plasitinated human corpses processed by Gunther von Hagens in 2002 and in such Digital

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<sup>31</sup> French, *Dissection and Vivisection in the European Renaissance*, 78-80.

<sup>32</sup> Author Roger French describes public anatomy dissections as a form of entertainment with a sense of spectacle utilizing many terms and elements borrowed from theatre, including: ushers, audience seating, the use of a stage platform, lighting, and set. The term "actors" was used to describe the dissectors who were directed in their exploration of the body by a physician or anatomist using a text to guide the unfolding of the action. French, *Dissection and Vivisection in the European Renaissance*, 80.

<sup>33</sup> French, *Dissection and Vivisection in the European Renaissance*, 78.

<sup>34</sup> See Gaby Wood, *Edison's Eve: A Magical History of the Quest for Mechanical Life*, (New York: Alfred A. Knopf, 2002), 50; See also Richard D. Altick, *The Shows of London*, (Cambridge and London: The Belknap Press of Harvard University Press, 1978), 339.

Theater performances as *Minimally Invasive* and *Holoman*.<sup>35</sup> What is unique, today, is that this instinct to explore private spaces within the body, has been brought to the public on a visually impressive scale allowing for great intimacy with the working organism without causing fatality.

### ***Minimally Invasive***

Early examples of technology casting the body of the actor as his own set can be seen in Svoboda's staging of *Prometheus* in which the live footage of the close-up of the actor's face is projected onto the rock on which he is chained.<sup>36</sup> Today the camera goes beneath the surface of the skin.

In *Minimally Invasive* (Paulo Henrique, 1998), Paulo Henrique brings the audience into his body through the use of a surgical camera which broadcasts live video of his internal organs on to screens above the table or the dais upon which he lays. At the same time he is conscious, speaking and narrating his ongoing experience along with other reflections with his publicly gathered audience co-present in the room. As the audience watches, listens and observes, they are aware of the inner-most functioning of the artist. His body becomes not only the distinctive outline of a trained instrument of the actor upon the stage creating character and expressions of illusion, but has become the very space of action - the setting itself. Much like Sprinkle and her speculum, he is

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<sup>35</sup> "In November 2002, a German doctor named Gunther von Hagens provoked a storm of outrage when he performed a commercially televised autopsy in London. Before a paying crowd of four hundred people—and a home audience in the untold millions... Von Hagens was already notorious for mounting a show called 'Body Worlds,' using actual human corpses preserved by his patented method of 'plastination' and arranged in various poses— running, swimming, fencing, horse back riding." Schechter, *Savage Pastimes*, 104.

<sup>36</sup> Svoboda integrated television broadcast into the staging in very complex and visually poetic ways. See Jarka Burian, *The Scenography of Josef Svoboda*, (Middletown, Connecticut: Wesleyan University Press, 1971), 106.



playing with (and against) himself, his body.<sup>37</sup> He is both actor and character in a public dialogue with his own private, biological organism.

He is his own content, scene partner, and spectacle. Through the use of projections, his body, the immensity of his fleshy caverns, becomes the set, spectacle, and in a sense, the place or setting to which the audience enters (visually and perhaps aurally) during the time of the performance. The result of this spectacle is that it is not an illusionary landscape of fiction; it is real as well as theatrical. For what could be more real than flesh and blood, bone and breath? We are transported inside the deep private recesses, beyond the intimacy of lovers, into the realm of surgeons.

Unlike actual historical gore or mediated fictional glorifications (such as Sadistic flesh obliterating video games) depicting death (and guts shown), this actor is alive and open at once. The duality of observing both the internal (wet, secret, vulnerable) private aspect of the man, and his public shell (skin, clothes, performance persona, etc.) in performance in a public place, potentially opens doors of perception and evaluation of these social/biological thresholds of inner/outer, self/other, public/private. In addition to adding meaning or perhaps value to his musings, this moment of dualism is deeply provocative and compelling. It may not give answers, but it certainly gives pause for reevaluation of perceptions of our selves and others as bodies in the world. And this is the power of a *new grotesque* or neo-Bakhtinian body, revealed before us through technology.

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<sup>37</sup> See Donna Ann McAdams, *Caught in the Act* (New York: Aperture, 1996), 2-5, 14.

## ***Yacov Sharir: Virtual Dervish***

Merleau-Ponty wrote about the “virtual body.” This idea is described by James B. Steeves as a concept essential to developing a full understanding of the body through its imaginative aspect. “The virtual body is an imaginative ability to consider alternative uses of the body and to assume different perspectives from which to observe a situation.”<sup>38</sup> The digital performance *Dances with the Virtual Dervish* (1994)<sup>39</sup> by Yacov Sharir and his collaborators Diane Gromala, and architect Marcos Novak, illustrates the idea of taking an alternate view of the body, as Yacov danced within the environment of the simulated digital body. Johannes Birringer describes the piece as a large scale immersive environment consisting of virtual chambers making up the virtual body in which Sharir danced:

Sharir, however, is seen dancing in the ‘Virtual Body’ chamber that is rendered as a three-dimensional simulation of an enormous virtual body configuring the immersive environment out of visualizations of X-rays, sonograms, and other medical and MRI 13 data of Gromola’s real body. Her virtualized body becomes an architecture that can be ‘inhabited,’ and for Sharir it is the performance space for an interactive dance that engages both the three-dimensional simulation of Gromola’s hollow body and the digitized images (video feedback) of himself dancing within these layers of virtual images. The tracking devices in his headphones and dataglove give him the illusion of multiple body experiences at high navigational speed, causing a sensation of disembodiment and disconnection since his point of view, which can change at a flick of the wrist, doesn’t establish a full perceptual grasp of the interior body landscape as a coherent body. Rather, the interior body tends to dissolve into an inchoate environment of giant organs, endless strips of tissue, cavernous bones, curves, lines, and

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<sup>38</sup> James B. Steeves, *Imagining Bodies: Merleau-Ponty’s Philosophy of Imagination*, (Pittsburgh: Duquesne University Press, 2004), 22.

<sup>39</sup> Which David Saltz called “One of the earliest and most influential examples” of virtual performance environments. David Z. Saltz, “Performing Arts,” in *A Companion to Digital Humanities*, edited by Susan Schreibman, Ray Siemens, and John Unsworth, 121-131, (Malden, MA: Blackwell Publishing, 2004), 126.

shapes. The virtual-body environment, in other words, doesn't pretend to be realistic; it is a reconceptualized space mapped by numbers of code.<sup>40</sup>

The dancing body performs its dance within the hollows of another (virtual) body which has become the environment and place of the performance. Dancing with organs and among bones and tissue modeled from a real person, the “live” performer dances among virtually living matter and thus experiences a unique understanding of the interaction between his performing body and the body which is his interactive performance place (or set). Günter Berghaus, describes the interaction between real and virtual bodies.

A large-scale, virtual body was created and programmed to remain permanently in motion. The sensuously undulating VR body became an immersive architecture for the body of a human agent. The user's movements in physical space were transcribed onto the virtual plane, where the VR dancer began to interact with the real dancer. The user lived in two worlds simultaneously and experienced a simulation of himself as a kind of mirror effect to his actual being. Sharir comments: ‘As my perception accommodates itself to a 3-D illusion, I experience a sense of, being in another, additional skin — I feel immersed. At the same time, I have this sense of heightened anxiety, caused by the doubling of my own body image. The sensation of disembodiment cannot be disconnected from the sensation of embodiment; that is, I feel the physicality, the groundedness of gravity simultaneously with the sense of immersion and altered abilities, such as the ability to ‘fly’ through the simulation.’<sup>41</sup>

In his short lecture at SDAT 2004, Yacov Sharir again described the feeling of being both grounded and also immersed in information, both restricted in the physical body by gravity and the tracking system and able to move freely,

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<sup>40</sup> Johannes Birringer, “Contemporary Performance/Technology,” *Theatre Journal* 51.4 (1999) 361-381), 376.

<sup>41</sup> Günter Berghaus, *Avant-Garde Performance: Live Events and Electronic Technologies* (New York: Palgrave Macmillan, 2005), 233.

virtually.<sup>42</sup> He described how the dancer must spin to navigate through the world, and that one would be entering from inside, navigating at seventy to eighty miles an hour (which could make one dizzy), and spoke of dancing with one's self inside the body. It seems as though the virtual body (based on a living person) is at once the environment and partner of the "live" performer who navigates it. This larger digitized body is, in a sense, both place and actor through its reactive navigation.

Ingrid Richardson and Carly Harper write eloquently on the interconnectedness of body (and the necessity of embodiment) and virtual reality environments which turn bodies into places and insist on the presence of the physical body in their construction and navigation (as is seen in Sharir's physical turning to navigate the virtual body). They write:

In the case...of the Visible Human Project, VR technologies contribute to the increasing fabrication of the body as an internal landscape, which can be traversed, in the same way that we might move through an architectural landscape in a three dimensional virtual reality model. These traversable volumetric interiors actually use flight simulation software in their construction, so the parallel is more than metaphoric. ...The reciprocity between the body and the technology is also present in the technical specifications and development of the VR apparatus itself.<sup>43</sup>

Thus physical bodies and virtual place-bodies are enmeshed. A further example of the virtual body as a landscape for "live" dramatic action is apparent in the next performance which grows from the Visible Human Project.

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<sup>42</sup> Yacov Sharir, Lecture at the Summer Dance and Technology seminar at Arizona State University, 2004.

<sup>43</sup> Ingrid Richardson, and Carly Harper, "Corporeal Virtuality: The Impossibility of a Fleshless Ontology," *Body Space and Technology* 2, no. 2 (2002). <http://wwwmcc.murdoch.edu.au/ReadingRoom/VID/corporeal.html>.

## ***Holoman***

A more clearly Digital Theatre use of the internal body made public, can be seen in the Digital Theatre piece *Holoman: Digital Cadaver* (Mike Tyler and Isabelle Jenniches, 1997). This show created by Mike Tyler, is a Frankenstein-esque revivification of a very public corpse. The story gives voice to the story of convict J.P. Jernigan (in the character of J.P. Holoman) whose body was donated to science after his execution for murder(s) and used in the “Visible Human Project” conducted by the National Library of Medicine, following in the tradition of dissection and vivisection of criminals in Europe mentioned earlier. Post mortem, his body was frozen and sliced into thin sheets, digitally photographed and used for public display and the collective understanding of the biology of mankind. The man’s most private physical intimacies have become public property. And in his death, this infamous murderer (a body controlled by the state) became a tool of learning and a famous and officially sanctioned property of value. In Tyler’s words, “When digitally reassembled, he became the ‘universal human meat:’ his digitalization resulted in a bloodless, dissectible cadaver for anatomy students, and perhaps the first immortal man, reborn in the ghost-like form of Holoman.”<sup>44</sup>

As the actual J.P.’s private body is laid bare, flayed before the camera, projected on the walls of the screens on stage and thus made public in the truest sense of the word (public property), the actor (Frank Shepard) playing the man gives voice to the demon inside. He verbally dances provocatively with the images of his “own” flesh, between

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<sup>44</sup> Mike Tyler, *Holoman* (Available from the Digital Performance Archive on the World Wide Web: [http://dpa.ntu.ac.uk/dpa\\_site/](http://dpa.ntu.ac.uk/dpa_site/)).

this newly condoned self – the sanctioned body which is to be the model of human bodily examples, and his own persona-filled body which sinned the ultimate bodily sin, murder. He is presented as both dead and alive at once, condemned and immortal, living on as a psychic trace a malevolent ghost within the digital machine. From the performance: “Where you going to go when you die? I mean where you gonna be? ...Everywhere.”<sup>45</sup> The actor on stage is an animated corpse: frightening, powerful, chalky, sickly, menacing; and the projections of his (the convict’s) biological legacy are all light and color, orderly, contained and yet revealing all. This piece provokes questions of the value of a body in society, between the controllable substance and the unmanageable spirit. It is a conversation between the ideal of the digitized biological and the actual corporal individual. The bodily form of the individual confronts his value as a mass of internal organs in a public space, thus issues of power, identity, and socialization are provoked through images, words, and taunting song. Again, the private body has become the theatrical set, and therefore, a public place for the performance. The historical person’s body (now virtual) becomes an internal landscape for the character’s public haunting of the stage embodied by the nude actor.

## **Cyborgs**

Today the body stands not only between inside and outside, between person and place, but also on the cusp between organic and machine, as technology begins to seep in, making permeable the borders between self and other.<sup>46</sup> The idea of the cyborg, a being

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<sup>45</sup> Tyler, *Holoman*, [http://dpa.ntu.ac.uk/dpa\\_site/](http://dpa.ntu.ac.uk/dpa_site/) (no pagination).

<sup>46</sup> The “cyborg... ‘technological human’...this merger relies on a reconceptualization of the human body as a boundary figure belonging simultaneously to at least two previously incompatible systems of meaning – ‘the organic/natural’ and ‘the technological/cultural.’ At the point at which the body is not as a

part human and part machine, was born in pages of cyberpunk novels, exists in some extents through current medical procedures,<sup>47</sup> and gains mythic strength and audacity in the provocative missives and performances of Stelarc.<sup>48</sup> The idea of the cyborg carries multiple meanings which included positive indexes of “enhancement”<sup>49</sup> and strength, but also negative connotations of the displacement of the biological, “live” or real.<sup>50</sup> Because it has been identified as a penultimate example of the hyper-real, or the simulacrum<sup>51</sup> which replaces the original, the idea of the cyborg carries emotional as well as intellectual weight. Olivier Dyens writes, “The cyborg is a simulacrum. It is, like a ghost, a strange and frightening ‘creature,’ a predator of the original.”<sup>52</sup> Whether viewed positively or negatively, the performances of Stelarc most clearly embody the idea of the cyborg and open the boundaries of the body as they open up conversation and debate on our changing nature as humans.

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fixed part of nature, but as a boundary concept, we witness an ideological tug-of-war between competing systems of meaning which include and in part define the material struggles of physical bodies.” Dyens, *Metal and Flesh*, 215.

<sup>47</sup> The “population is becoming bionic,” as implants are in an estimated 8-10% of the US population. Perkowitz, *Digital People*, 3.

<sup>48</sup> “The term cyborg refers to cybernetic organism, a self-regulating human-machine system. It is in effect a human-machine hybrid in which the machine parts become replacements, which are integrated or act as supplements to the organism to enhance the body’s power potential... the categories of the biological, the technological, the natural, the artificial and the human—are now beginning to blur.” Mike Featherstone, and Roger Burrows, “Cultures of Technological Embodiment: An Introduction,” in *Cyberspace/Cyberbodies/Cyberpunk: Cultures of Technological Embodiment*, edited by Mike Featherstone and Roger Burrows, 1-19 (London: Sage Publications, 1995), 2.

<sup>49</sup> “Techno-bodies are healthy, enhanced, and fully functional—more real than real.” Dyens, *Metal and Flesh*, 216.

<sup>50</sup> “The cyborg is an emblem of this, disappearance... The cyborg is the implosion of our former definition of life.” Dyens, *Metal and Flesh*, 81.

<sup>51</sup> See Anne Marsh, “Obsolescent bodies and prosthetic gods,” in *Body Show/s: Australian Viewings of Live Performance*, edited by Peta Tait, 177-186 (Amsterdam and Atlanta, GA: Rodopi, 2000), 182.

<sup>52</sup> Dyens, *Metal and Flesh*, 82.

## Stelarc

Performance artist Stelarc has achieved great notoriety for his own internal explorations of the body. In *Ping Body*, Stelarc connects his body's muscles directly to the Internet and allows other online users to manipulate them. Stelarc asks us to imagine the implications of remote manipulation of your own body from distanced bodies, or of witnessing or directly affecting the actor controlled by his audience. Stelarc comments on his experience in performance: "You watch part of your body move but you have neither initiated it nor are you contracting your muscles to produce it... [it is a] more complex...body—not simply a single entity with one agency but...a host for a multiplicity of remote and alien agents."<sup>53</sup> Elsewhere he comments on the body 'becoming a host for remote agents:' "Your body is moving, and you've neither initiated that movement nor are you yourself contracting your muscles to produce it. You realise because of your software program and your connection on the net, that you're manifesting the behaviour of another body elsewhere, and that's a strange situation."<sup>54</sup>

Unlike Paulo Henrique's primarily body-friendly dialogue with his own biological being, Stelarc takes a seemingly adversarial stance to his flesh as the substance of his humanity. By castigating the human body and "forsaking" it for the cyborg (human-machine hybrid) he is attempting to hasten what he sees as the technological being of the future, a "*Homo technologicus*" of sorts.<sup>55</sup> This new body with muscle

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<sup>53</sup> Stelarc, "Stelarc," <http://www.stelarc.va.com.au/>.

<sup>54</sup> Stelarc, "Interview with Nicholas Zurbrugg," in *The Twentieth-Century Performance Reader, Second Edition*, edited by Michael Huxley, and Noel Witts, 392-401 (London and New York: Routledge, 1996), 399.

<sup>55</sup> Arthur and Marilouise Kroeker, "We Are All Stelarc Now," in *Stelarc: The Monograph*, edited by Marquard Smith, 63-85 (Cambridge and London: The MIT Press, 2005), 63; "On the one hand,



joined to wires is no longer private, its impulses are carried beyond its skin, its membranes are stimulated to action from outside its immediate casing. The skin and the silhouette no longer define the whole, public and private spaces of this new body are one. The performance experiments conducted in the presence of and with the help of live and online audiences create a sense of permeability. The majority of his performances deal with remote manipulation of the body and destabilizing conceptions of human physicality (boundaries and beings).<sup>56</sup>

Audiences have watched a miniature art installation/sculpture in his stomach, controlled the functioning of Stelarc's third arm—a robotic appendage—and stimulated the movement of his biological limbs and other muscles.<sup>57</sup> In *The Stomach Sculpture*, a miniature sculpture was inserted into his body. Viewed via camera from within, Stelarc demonstrated “the body is experienced as hollow with no meaningful distinctions between public, and private.”<sup>58</sup> This performance crosses similar physical and conceptual borders as Paulo's piece, but with a different tone and aim. In one of his

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the distinction between humans and technology is not sharp, because technology has always had a big role in shaping the intimate nature of humans, and, on the other hand, technology's evolution has gradually taken the place of humans' evolution and has become a sort of continuation of it... These two evolutions have become closely intertwined and have formed a 'bio-cultural' or 'bio-technological' evolution that has set the stage for the appearance of a new species, homo technologies, a symbiotic creature in which biology and technology intimately interact... *Homo technologicus* is not simply 'homo sapiens plus technology,' but rather 'homo sapiens transformed by technology'; it is a new evolutionary unit.” Giuseppe O. Longo, “Body and Technology: Continuity or Discontinuity?” In *Mediating the Human Body: Technology, Communication, and Fashion*, edited by Leopoldina Fortunati, James E. Katz, and Raimonda Riccini (Mahwah, New Jersey and London: Lawrence Erlbaum Associates, Publishers, 2003), 23.

<sup>56</sup> Stelarc, and Marquard Smith, “Animating Bodies, Mobilizing Technologies: Stelarc in Conversation,” in *Stelarc: The Monograph*, edited by Marquard Smith, 215-241 (Cambridge and London: The MIT Press, 2005), 222.

<sup>57</sup> Much like Galvani's use of electric current to animate muscles, or today's experiments with implants making rabbit legs twitch, Stelarc's muscles respond to currents inflicted on him. Perkowitz, *Digital People*, 66, 140.

<sup>58</sup> Stelarc, “Stelarc,” <http://www.stelarc.va.com.au/>.

performances, *Fractal Flesh*, remote audiences could see a “map of Stelarc’s body over the net, and by pressing certain spots on the map, can cause a low voltage to stimulate one of his muscles, forcing him to move involuntarily.”<sup>59</sup>

With his performances and art Stelarc proclaims the “The Body is obsolete” with the bravado reminiscent of the Futurist’s manifestos proclaiming the ascendance of the dynamism of the machine which they emulated in “metalization of the body” on stage in costuming.<sup>60</sup> Yet Stelarc’s live and often nude body is very present in performance alongside the machine.<sup>61</sup> Ann Marsh notes: “Despite the artist's futuristic vision, his body is in the here and now; it bleeds and pulsates, experiencing the real as pain. During the amplification events the audience is saturated by the sounds of the inside of the body, which create a spectacle by projecting the softness and wetness of the inside onto the world around it.”<sup>62</sup> He has donated his body to our collective enjoyment and becomes the plaything of the audience, controlled by the Internet, and by public forces of information beyond his private, physical control.<sup>63</sup> This is a frightening vision of the possibilities of the technologized body, the technology controlled self.<sup>64</sup> His works challenge our

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<sup>59</sup> Stelarc, “Stelarc,” <http://www.stelarc.va.com.au/>.

<sup>60</sup> Stelarc, “Prosthetics, Robotics and Remote Existence: Postevolutionary Strategies,” *Leonardo* 24:5 (1991): 393; Michael Kirby, *Futurist Performance* (New York: PAJ Publications, 1971), 91-119.

<sup>61</sup> But Stelarc’s performances demonstrate his body’s presence. Marsh, “Obsolescent bodies and prosthetic gods,” 182.

<sup>62</sup> Marsh, “Obsolescent bodies and prosthetic gods,” 182.

<sup>63</sup> One could question whether his works are Digital Theatre since the level of interactivity can be being very high if the audience is truly controlling the majority of the movements/events of the performance.

<sup>64</sup> Arthur and Marilouise Kroeker, 65.

perceptions of individuality, solidarity, wholeness as biological beings in the face of an ever-advancing technological world.<sup>65</sup> He is the Borg made real.

At the same time as he is bringing cyberpunk fiction to life, as an artist he is cleverly prodding us to reevaluate our individual and sociological choices, demanding that we confront our decisions face-on rather than sliding into our futuristic fantasies quietly. In his continuing performance works (which may be acts of Digital Theatre given live audiences and textual utterances, or may just invite possibilities for future Digital Theatre), the limits of the body, of intelligence, and the limits of social acceptance are being tested. His cyborg-self is the antagonist/antithesis to the media-controlling body of the performer I will extoll in other segments of this discussion. Still his work is immensely valuable, for it is at the heart of good theatre (and performance) to make us question our choices and experience. In Stelarc's work there is an intense sense of both tremendous future possibilities coexisting with an equally strong sense of threat to what we consider the sanctity of the human body as a sign of individual experience.

Stelarc is re-defining what it means to have a body (in relation to the place and people outside the individual). Authors Phillip Thurtle and Robert Mitchell wrote, "An organism bounded by flesh is a body. The time flesh continuum of my extended kinship network...is a body. Finally, and most intriguingly, the database of sequenced genetic material is also a body."<sup>66</sup> Stelarc's Internet wired body is no longer the body as a closed unit but a data-body and an every-place body. His performances embody the idea of opening of the body to information and interaction from others. His body is no longer an

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<sup>65</sup> Jane Goodall, "The Will to Evolve," in *Stelarc: The Monograph*, edited by Marquard Smith, 1-31 (Cambridge and London: The MIT Press, 2005), 1-2.

<sup>66</sup> Thurtle and Mitchell, "Introduction: Data Made Flesh," 4.

individual unit bound by skin, but extends through space (and time) as part of information flow.

In this sense it is a new form of Bakhtin's liberating grotesque body. It is not separated from the rest of the world; it outgrows itself, going beyond its own limits, allowing the world to enter the body, and for the body itself to go out to meet the world.<sup>67</sup> This is demonstrated by the performances in this section, and supports my argument for the rise of the neo-Bakhtinian body through Digital Theatre and performance. It could be a direct description of the Stelarc's performance of *Ping Body* or other performances discussed in this section, where his body's muscles are directly connected to the Internet—a conduit for the communication of multiple entities, 'the body of technology.' Bakhtin writes about the body of the folk (both in crowds and through time as the ancestral body) extended both physically and temporally, as is often theorized by those discussing the digitized body in performance.

The body thus becomes a conduit for collective impulses to be embodied or find expression. It becomes a place for public inter-action. Stelarc's sharing control of his body with his Internet and co-present audience is an act of transgression mixing public and private, internal and external places. Recall Bakhtin's words: "Bodies could not be considered for themselves; they represent a material bodily whole and therefore transgressed the limits of their isolation. The private and the universal were still blended."<sup>68</sup> The individual bodies of his audience members (some in public, some in private) transgress the limits of their isolation communicating through Internet

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<sup>67</sup> Bakhtin, *Rabelais and His World*, 26.

<sup>68</sup> Bakhtin, *Rabelais and His World*, 24.

connections their desires and acting through the conduit of Stelarc's (formerly private) body. In a sense his networked body is demonstrating the blending of the private and the universal.

In Stelarc's words, the Internet "may now allow unexpected ways of accessing, interfacing and uploading the body itself...it offers...powerful individual and collective strategies for projecting body presence and extruding body awareness. The internet does not hasten the disappearance of the body and the dissolution of the self...What becomes important is not merely the body's identity, but its connectivity."<sup>69</sup> Perhaps the most useful idea evolving from Stelarc's work is his idea of "Split-physicality," or the split body: a body which is of two or more locations at once (at least in terms of motivations-stimulation). "Electronically coupled bodies can extrude agency with a body's awareness being neither 'all-there' nor 'all-here.'"<sup>70</sup> In a sense these artistic experiments are both hopeful and potentially dangerous, as the performer's body becomes the puppet or agent for the ideas of multiple distant human bodies, a living hard-wired marionette.

In *Ping Body*, random feeds of Internet information (outside forces, stimulation namely binary data) create cumulative and real responses in his body; now the puppet master is no longer human, but potentially machine. Stelarc writes, "The *Ping Body* performances produce a powerful inversion of the usual interface of the body to the Net. Instead of collective bodies determining the operation of the Internet, collective Internet activity moves the body. The Internet becomes not merely a mode of information

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<sup>69</sup> Stelarc, "Stelarc," <http://www.stelarc.va.com.au/>.

<sup>70</sup> This potentially leads to empowerment and agency or difficult ethical issues resulting from ideas of "intimacy without proximity."

transmission, but also a transducer, effecting physical action... Internet activity itself choreographs and composes the performance.”<sup>71</sup>

Author David McNally notes that Bakhtin wrote that “‘I am situated...on the boundary of the world I see.’ And the world I see is bounded by my seeing body and what it perceives.”<sup>72</sup> However, the idea that “This makes an experience uniquely mine, since no one else is this body at this place and in this time...one of the reasons I need to be ‘completed’ by others”<sup>73</sup> is both fulfilled and refuted by the work of Stelarc. It is the ‘I’ (usually embodied in the individual body) which has become (in a sense) tied to a body which is not entirely unique. Each of the participating audience members beings to play within an interface which represents being within Stelarc’s wired body and thus share control of his body (and perhaps being completed him at some level within the parameters of the performance experiment). In an interview with Nicholas Zurbrugg, Stelarc reflects on individuality and the body:

I guess that I don’t take the body as a given, and I don’t take the ‘I’ or the ‘self’ as a necessary construct. Certainly, it’s a convenient one, a seductive one, one that allows us to exist in the world, one that allows us to function with other bodies in relationship to other bodies. But it seems clear that the conventional notion of ‘awareness,’ as a possession of each and every individual body, can also be reconfigured as a sensation constantly reconstructed between individuals, rather than within each individual...The Internet can become not only a medium of information transfer and transmission, but rather it can become a transducer affecting physical action. Electronic space as a medium of action rather than information. The Internet as external nervous system for a multiplicity of bodies in different places — awareness and agency could be shifted and shared in a space of distributed intelligence, scaling up the subtlety, speed and complexity of human activity.<sup>74</sup>

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<sup>71</sup> Stelarc, “Stelarc,” <http://www.stelarc.va.com.au/>.

<sup>72</sup> McNally, *Bodies of Meaning*, 124.

<sup>73</sup> McNally, *Bodies of Meaning*, 124.

<sup>74</sup> Stelarc, “Interview with Nicholas Zurbrugg,” 392-395.

His quest to explore externalized bodily reaction is taken to an extreme in Stelarc's *Movatar*, a machine/device which would allow an avatar or virtual being access to (and control of) a physical body of a performer. This would allow an avatar with artificial intelligence to become "increasingly autonomous and unpredictable," it would become an "AI (Artificial Life) entity performing with a human body in physical space."<sup>75</sup> *Movatar* seems to explore his inquires about the body without an 'I,' a body that operates without a human center of memory or desire.<sup>76</sup> This would be like giving Jeremiah (the computer program from *Blue Bloodshot Flowers*) a body of flesh to respond to his calculated emotions, or giving legs to another avatar or cyber-agent; a risky venture into the creation of fleshed machine minds.

Works similar to Stelarc's bodily extension into public or dispersed places seem to focus on the tactility of the body facilitated through virtual reality interfaces<sup>77</sup> often with erotic or sensual implications of mapping or laying virtual bodies against each other.<sup>78</sup>

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<sup>75</sup> Stelarc, "Stelarc," <http://www.stelarc.va.com.au/>.

<sup>76</sup> Stelarc, "Interview with Nicholas Zurbrugg," 398.

<sup>77</sup> "Rheingoid imagines a technology that will allow computer users to map their body images into computer-simulated graphic environments in cyberspace, along with feedback devices that will translate actions in cyberspace into physical sensations in the user's body; if the user's image or avatar in cyberspace reaches its hand to 'touch' another person's image or is 'touched' by someone else's virtual hand, then an approximation of those sensations will be transmitted to the user's actual body." Thomas Foster, *The Souls of Cyberfolk: Posthumanism as Vernacular Theory*, Electronic Mediations 13 (Minneapolis and London: University of Minnesota Press, 2005), 117.

<sup>78</sup> "This is a technology that consists of rubber and latex; it has various stimulators and effectors, including electrical stimulators and heat pads, mounted in and on the suit. The body—in Stenslie's project the body's erogenous zones in particular—becomes extended, since the touching of one's own suit allows for a tactile communication with another user who is wearing a similar technology." Franziska Schroeder, "The Touching of the Touch – Performance as Itching and Scratching a Quasi-Incestuous Object," *Extensions: The Online Journal of Embodied Technology* 2 (2005): 5-10.

## ***Implants***

Like noted telematic and bio-artist, Edwardo Kac,<sup>79</sup> Stelarc has also experimented with bio-art and genetic alteration as in the case of the creation of a third ear implant.<sup>80</sup>

Like Stelarc, many artists are exploring the performative possibilities of implants or “nanotechnology and of interfaces between living nervous systems and external devices.”<sup>81</sup> The application of wearable and perhaps implantable devices includes the triggering of media, fine muscle movement as in Palindrome’s device which “allow the individual muscle contractions of a dancer’s body to control other media. One such system makes dancers’ heartbeats available to control other media (such as the tempo of the music).”<sup>82</sup> The idea of dancing with your own heartbeat, brainwave, or EKG information brings the performer in direct contact with their internal instrument and allows the audience into their body, creating an intimate, even private place of bodily performance.

One can get a sense of the effect in Silvija Jestrovic’s description of a simplified technology example performed by Laurie Anderson:

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<sup>79</sup> Kac is a noted Australian telematic artist and theorist working with an eye for ecological and biological themes and mater. His installation *Genesis* explored “the dangers of reducing life down to single factors, such as genes.” Kac, *Telepresence and Bio Art*, 249. The work consisted of translating a passage of the bible into Morse Code, then into DNA base pairs, which was then created in a lab, displayed, and altered by intervention from web users triggering UV light. The project makes one reconsider the stability of all things biological in the digital age, including the composition of the body. A similar themed web work/installation was *Second Eve*, which dealt with finding the perfect human female to be the fountain source of all future cloned humans. Ideas such as this are ripe for theatrical interpretation and performative intervention.

<sup>80</sup> “Technology, symbiotically attached and implanted into the body, creates a new evolutionary synthesis, creates a new hybrid human—the organic and synthetic coming together to create a sort of new evolutionary energy.” Stelarc in Goodall, “The Will to Evolve,” 4.

<sup>81</sup> Perkowitz, *Digital People*, 52.

<sup>82</sup> Jane Frere, and Mostafa Yarmahmoudi, “Palindrome: A Critical Perspective and Interview,” *Body Space and Technology* 4, no. 1 (2004), <http://people.brunel.ac.uk/bst/vol04/janefrere.html>.



Anderson often puts a microphone/stethoscope gadget on her chest asking the audience to listen to her heartbeats...The technological equipment, enabling the performer's heartbeat to be heard, has a contradictory effect: it distances the spectator from the performance, while at the same time bringing him/her right into the performer's body. The sound of the human heart transmitted and amplified through an electric object resonates as familiar yet strange. It becomes a sound both human and digital that points to the 'dialectic symbiosis' between body and technology.<sup>83</sup>

Clearly Jestrovic's reaction points to a complex negotiation of the response to being both inside and outside the performer's technologized body. A more intricate mechanism is in play when sub dermal implants are involved, which might potentially produce an even more multifaceted and ephemeral intellectual/emotional response in the audience (or performer).

In her article discussing her use of microchips to question the use of human identification and surveillance technologies, artist Nancy Nisbit is provoking not only a sense of the new relationship between bodies and computers (bodies as computer interfaces), but work like hers demonstrates how the wholeness of the body is penetrated by technology, becoming a public space or the potential site of extended state or corporate control and monitoring of the individual.<sup>84</sup> According to Nisbit, she used Radio Frequency Identification Technology (RFID) "a wireless system commonly used for livestock and pet identification as well as automated vehicle identification systems."<sup>85</sup> In order to complicate the human tracking or surveillance process she installed two ID

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<sup>83</sup> Silvija Jestrovic "The Performer and the Machine: Some Aspects of Laurie Anderson's Stage Work," *Body Space and Technology* 1, no. 1 (2000). <http://people.brunel.ac.uk/bst/vol0101/silvijajestrovic.html>.

<sup>84</sup> Nisbet, "Resisting Surveillance," 211-214.

<sup>85</sup> "...RFID technology has...significantly bolstered corporate interest... for 'a variety of security, financial, emergency identification and healthcare applications.'" Nisbet, "Resisting Surveillance," 211.

chips into her body (rather than one).<sup>86</sup> “I am interested in embodiment versus adornment. These chips are permanent, nontransferable and hidden, and they ‘talk’ to certain machines.”<sup>87</sup> The central questions of surveillance and access are the negotiation of public and private in relation to place and body.

Likewise, eco-tech-artist Edwardo Kac is known for implanting a chip which interfaced with machines in the form of shared resource—blood transfusion for data in *A Positive* and in *Time Capsule*, which involved remote participation.<sup>88</sup> This latter work took place in Brazil and in cyberspace as he registered his body on a database. In *Time Capsule*, the presence of the chip, with its recorded and retrievable data inside the body causes the audience to consider the copresence of lived memories and artificial memories within us. Kac was also inquiring about the legitimacy and ethical implications of such procedures in the digital culture. By scanning the implant remotely via the Internet, Kac revealed how the connective tissue of the global digital network renders obsolete the skin

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<sup>86</sup> In her installation, doors open to only those participants who choose to wear micro-chipped badges, making overtly visible importance of the growing presence of information tracking and control systems. She states, “I am interested in the interface between the body and interactive informational technologies. Subjection of my body to the cultural coding and technical invasion of implanted microchips is fundamentally different from wearing them as an accessory like a watch or tattooing numbers on my body.” “I had two chips implanted into my body because of the assumption that each surveyed person has one unique ID number—not two: one chip, one person and one unique code. Surveillance relies on minimizing confusion and keeping one’s boundaries clear. I implanted only two chips because it takes only two to create a binary system—like the zeros and ones of computer code. With exactly two chips I am able to “code for” an infinite number of identities just through the sequence in which they are scanned.” Nisbet, “Resisting Surveillance,” 212, 213.

<sup>87</sup> Nisbet, “Resisting Surveillance,” 213.

<sup>88</sup> “In A-positive the human body provided the robot with life-sustaining nutrients by actually donating blood to it; the biobot accepted the human blood and from it extracted enough oxygen to support a small and unstable flame, an archetypal symbol of life. In exchange, the biobot donated dextrose to the human body, which accepted it intravenously.” Kac, *Telepresence and Bio Art*, 225. He writes of the necessity to reevaluate human machine relations in light of need to “realize how close technology is to the body, or how deep it already is inside the body.” Kac, *Telepresence and Bio Art*, 227.

as a protective boundary demarcating the limits of the body. He writes in his book *Telepresence and Bio Art: Networking Humans, Rabbits, and Robots*:

The emergence of biometrics, with its conversion of irrepeatable personal traits—such as iris patterns and fingerprint contours—into digital data, is a clear sign that the closer technology gets to the body, the more it tends to permeate it...It is almost as if the body has become an extension of the computer, and not the other way around.<sup>89</sup>

Here he takes the ideas of what is public and what is private to the next logical extension, questioning whether memories are or will remain private as the interface between bodies and technology becomes even more intimate and the essence of internal and external factors grow ever more involved and transferable.

From exploring the inner folds of the body, we turn to perceptions of the edges of the mediated body as a common organism expressing the connection between distant people. The final pieces I would like to discuss in this section on the body, in fact bring us into the realm of the discussion of a sense of expanded place facilitated through technologies such as internet broadcast and satellite links which will be discussed in greater detail in the chapter on cyberspace. In works like *Hungry@Corpos*, *Telematic Dreaming*, and *Network Touch*, each of these digital performances (which can be used as examples of performance techniques or possibilities for future Digital Theatre), the emphasis is on the perception of closeness and physical proximity between geographically distant participants.

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<sup>89</sup> Kac, *Telepresence and Bio Art*, 232.

## ***Hungry@Corpos***

In the piece *Hungry@Corpos*, “a virtual banquet,”<sup>90</sup> the visceral nature of bodily existence was made manifest by the universal act of eating. In their exploration of the “numeric body” (the telematically linked body), Corpos Informáticos explores the meeting of the digitized body with others across great distances in a very immediate way.<sup>91</sup> The collaboration involved mediated participants from all over the world and consisted of many video streams of mouths chewing broadcast over the Internet. Each separate window added to the cumulative feasting, a disembodied yet real-time and basic biological action, in a sense provoking thought about private and public behavior as participants openly chewed. This was not the clean, discrete body, but a body in the process of consuming, making more of itself, growing, living, taking part in a *bodily process*. In a sense this is a very Bakhtinian grotesque body—a body in playful revolt against norms, bucking against the cold distance of technology—reveling in the simple fact of human bodily processes, laughing in the face of propriety (such as proper technology usage, like video conferencing intended for important conversations) opening their mouths wide and feasting at their own virtual festival.

In works like *Hungry@Corpos*, Corpos Informáticos wanted to explore the confrontation of body and technology within the moist, messy physical commonalities of desire, pleasure, encounter. “Our investigation lies on the possibility of survival of a digital body, of a numerical flesh body; it lies on the possibility of survival of a sensual body turned into image...Performance art on telepresence is the possibility of being

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<sup>90</sup> Corpos Informáticos Research Group, *Hungry@Corpos*, [http://dpa.ntu.ac.uk/dpa\\_site/](http://dpa.ntu.ac.uk/dpa_site/).

<sup>91</sup> See Maria Beatriz de Medeiros, “Performance art and Digital Bodies (Corpos Informáticos),” *Body Space and Technology* 3, no. 2 (2003), <http://people.brunel.ac.uk/~bst/vol0302/index.html>.

together without being physically real, though present. A real body, absent, though present through teleperformance. “<sup>92</sup> They wanted the “body, flesh, pores, secretions, contaminations and technology,”<sup>93</sup> all at once and in conversation. Here sensual human bodies are brought together in their visceral similarity through technology.

The work is highly participatory, perhaps leaning more toward performance than Digital Theatre. “We have experimented with diverse softwares: Net Meeting, CUSeeMe, Ivisit, among others...Guests and internauts can take part in both. We have never acted as moderators, asking internauts to leave, be them there for curiosity or for self-exhibitionism. To reach a greater number of participants on line, we keep on performing for many, many hours.”<sup>94</sup> Thus enacting the Bakhtinian Carnavalesque festivities which include community participation in vulgar bodily acts over an extended period of time.

### ***Telematic Dreaming***

Another type of bodily interaction is present in telematic works which create a perceived sense of the body of the mediated other as co-present or almost tangible. In the next two works it is the silhouette, or edges of the body as a form which communicate vast amounts about the desire for interpersonal connection. In *Telematic Dreaming*, by Paul Sermon, bodies lay side by side on a bed, one hot-breathing-present, and the other a

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<sup>92</sup> de Medeiros, “Performance art and Digital Bodies,” (no pagination).

<sup>93</sup> Corpos Informáticos Research Group, *Hungry@Corpos* (Available from the Digital Performance Archive on the World Wide Web: [http://dpa.ntu.ac.uk/dpa\\_site/](http://dpa.ntu.ac.uk/dpa_site/)).

<sup>94</sup> de Medeiros, “Performance art and Digital Bodies,” (no pagination).

video shadow of their bedmate thousands of miles away across the Atlantic.<sup>95</sup> As each participant interacts, their image is relayed to the partner bed creating a sense of close, almost intimate contact in a public gallery.

## ***Network Touch***

Likewise, in *Network Touch*, a performance event broadcast into the Access Grid virtual environment, coordinated by Ryerson University, one gets a sense of hands actually meeting when video feeds are mixed into a composite space.<sup>96</sup> There is a sense of an electric charge of expectation when you are about to “touch” the outline of another’s hand. Much like a phantom limb, one gets a sense of something being there that is not, as participants slow their reach and tenderly flex their fingers toward the image of the hand they wish to meet.<sup>97</sup> It is an illusion, but one that carries real meaning and possibility. Think of the potential for interaction where bodies meet across space to come together in compassion, creative expression, and cumulative effort. The ideology of telematics (defined elsewhere) is built on the idea that interaction with real environments in distant locations creates a sense of agency and sharing of global connectedness. The human body is a commonality with which we can all still identify,

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<sup>95</sup> This piece heightens the tension between public places and private behaviors. “Telematic Dreaming surely has the most powerful impact because of the dissimulating effect of the bed, a sign shared by everyone . . . Despite the fact that the body is the only means of communication therein, the body of the other party is ghostlike, without substance. This contradictory situation not only confounds the audience, but also, after first releasing them from the logic and restrictions of daily life and dismantling the various elements of signatory identity and the biological environment of the body, it enables experimentation with and enjoyment of the role the body plays in communication. The virtuality of the space enables it to maintain both theatricality and the context of daily life at the same time. . . Telematic Dreaming allows not necessarily an escape from the body but the opportunity to observe oneself from a new perspective. It also allows the viewer to explore the relationship of touching and looking.” Stephen Wilson, *Information Arts: Intersections of Art, Science, and Technology*, (Cambridge: The MIT Press, 1995), 520.

<sup>96</sup> I participated in this online performance event first hand in August 2003.

<sup>97</sup> Scorer, “Network Touch,” <http://www.galen.ca/art/networktouch/index.php> (no pagination).

and the sense that our bodies can interact beyond our immediate environment opens our perception to the presence of (cultural) others and our abilities to transcend the surroundings and limits (social, ideological, mediated) to which we are accustomed. This expansion of human bodily perception is a powerful tool that needs to be explored further.

Each of the preceding performances, demonstrated the desire to explore the body as an extended interface rather than a separate unit. Whether through the projection of real or animated reproductions of the inner body in which the performer performs, a cyborg link in a network of global stimuli, a test of information boundaries, or a link in a bodily sensed networked community- the areas of public and private are being re-charted to include both internal and the external places of the body. As Anthony Synnott wrote: “The interaction between body and place is of great potential significance to communication ideas of individual effect in our mediated social landscape, by making visible the tie between human actions and environmental reactions.”<sup>98</sup>

In the next chapter I will continue to explore place in terms of public and private, but primarily through the lenses of illusionary and real places.

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<sup>98</sup> Anthony Synnott, *The Body Social: Symbolism, Self and Society* (London and New York: Routledge, 1993), 262.

## Chapter 4. The Performer's Body Extended

*The dancer has always been mediated by technology, her body is so often the instrument or tool of a master discourse... When dancers use technology, however, the dancer becomes the mediator.*<sup>1</sup> ~Rachel Fensham

In this chapter I will be discussing how digital technology increases the performer's degree of freedom. Digital technology extends his/her bodily instrument into the surrounding performance space. By allowing performers to trigger and manipulate media elements in their environment directly and to control (rather than be controlled by) media cues, the performer's sense of agency expands and they begin to play (in/with the) space.

### ***Digitizing Motion (Motion Trigger, Capture, Tracking)***

There are three important and related techniques of following and charting the performer's body in space: motion capture (which can lead to painterly drawings in space determined by the position of markers, or the re-mapping of the movement of these markers onto animated puppets or other digital media), motion tracking<sup>2</sup> (which indicates the position of the dancer in space), and motion triggering<sup>3</sup> (in which the movement of

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<sup>1</sup> Rachel Fensham, "Mediating the body: dance and technology," In *Body Show/s: Australian Viewings of Live Performance*, edited by Peta Tait (Amsterdam and Atlanta, GA: Rodopi, 2000), 231.

<sup>2</sup> Motion tracking is "system capable of tracking a person within a performance space is one that has been undertaken by a number of different groups and individuals utilizing various different tracking methods." John Pearson, "An Investigation and Application of Motion Sensing Technologies for Creative Expression within a Live Performance Environment," Masters Report, Masters Degree in Music Technology, University of Limerick, Autumn, 2003.

<sup>3</sup> "Motion triggering is when a motion is detected by a sensor, which sends a signal to a digital processor, which, in turn, elicits a response." Donald F. King, and Spencer W. White, "Scene-based nonuniformity correction processor incorporating motion triggering," US Patent Issued on February 24, 1998. <http://www.patentstorm.us/patents/5721427.html>.



the performer triggers media reactions via sensors placed either in the space or on the body, often through the relay of MIDI [Musical Instrument Digital Interface] signals interpreted by a computer controlling playback of video or audio assets). The way that this extension of body into place occurs in Digital Theatre is through the array of performers interacting with other media surroundings through their expressive bodies.

The line between actor and technician/artist has been crossed by the introduction of motion monitoring triggers activating media directly through the performer's body. A definite sense of agency stems from this powerful body interacting in space.<sup>4</sup> The performer (and thus the human protagonist) is put in direct conversation and control of their media partner and mediated environment. (In some cases this interactivity begins to allow the actor's body to build or rearrange our sense of place.) Through Intelligent Stages like ASU's, staged productions like *Kaspar*, and mobile or wearable human computer interfaces such as Troika Ranch's MidiDancer, the performer is wired into the system controlling the digital spectacle of the space. Through motion sensing technologies, the performer molds the space around them, becoming an architect of light, sound, and movement. These types of works are the clearest examples of the body extended and empowered through the introduction of interactive digital technology into performance. As the agency of the actor (his invisible reach in the shaping of his/her own environment) is extended, the audience can see a positive interchange between human and digital, real, and hyper-real in which the human element is still actively involved in determining its own outcome.

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<sup>4</sup> "Agency, in its simplest definition, is the power to *do* something." Jeffrey Nealon, and Susan Searls Giroux, *The Theory Toolbox* (Lanham: Rowman and Littlefield Publishers, Inc., 2003), 193.

As digital performance scholar, Harmony Bench wrote: “If virtuality is considered as a negotiation of corporeality, the point at which the body is re-interpreted through the image, then dance in new media...can be considered in terms relevant to its manifestations. Moreover, dance [and performance], as play, provides a metaphor for that negotiation.”<sup>5</sup>

Alberto Menache writes, “Motion capture is the process of recording a live motion event and translating it into usable mathematical terms by tracking a number of key points in space over time and combining them to obtain a single three-dimensional representation of the performance. In brief, it is the technology that enables the process of translating a live performance into a digital performance.”<sup>6</sup> This precise description offers some important insight into the conversion and the resulting conversation between the “live” performer performing and the creation of their digital other (spawned by the record of human motion that may be rendered in almost any imaginable shape).<sup>7</sup> Just as motion capture translates the “live” performance into something digital, motion-triggering can give the sense of liveness or real time interactivity and sometimes the appearance of life or personality to digital media.<sup>8</sup> But before covering examples of Digital Theatre productions utilizing motion capture, motion triggering, and motion sensing, I will briefly discuss historical precursors to motion-sensitive media

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<sup>5</sup> Bench, “Virtual Embodiment and the Materiality of Images,” 8.

<sup>6</sup> Alberto Menache, *Understanding Motion Capture for Computer Animation and Video Games* (San Diego: Morgan Kaufmann, 1995): 1.

<sup>7</sup> For an example of “live” and media performers in conversation, see Scott deLahunta, “Choreographing in Bits and Bytes: motion capture, animation and software for making dances,” (January, 2000), <http://www.daimi.au.dk/~sdela/bolzano/>.

<sup>8</sup> Yacov Sharir, “Body Automatic Body Resistant,” <http://www.utexas.edu/cofa/courses/sharir/body.htm>.

performance found in Bauhaus and Futurist performance. While motion capturing and tracking was not invented by the Bauhaus, Oskar Schlemmer's dance and performances explored the movements of the body in space in a precise, almost mathematical way which foreshadowed today's most complex digital dance works.<sup>9</sup>

### ***Historical Background: Digitizing Motion***

Oskar Schlemmer's experiments with dividing the empty space of the stage into a "spatial linear web" (consisting of wires marking the space by a square, diagonals and circle)<sup>10</sup> allowed the space itself to be mapped with visible coordinates within which the performer's body interacted, becoming a "space bewitched creature" whose every movement carries (visual) meaning.<sup>11</sup> To my mind, his description of the performer in geometrically marked space could be a very eloquent description of a dancer or performer whose body is monitored through motion capture (via both external tracking points and also potentially internal functions) in a lab or performance space today.

Futurist instruments such as the noise harmonium are the progenitors of MIDI-synthesizers to follow in 1970s and '80s which not only lead to innovative music

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<sup>9</sup> Gropius wrote of his colleague that he was "transforming dancers and actors into moving architecture" with his "deep interest and intuitive understanding of the phenomena of architectural space." Gropius and Wensinger, *The Theater of the Bauhaus*, 9. Gropius continues, "The most characteristic artistic quality in Oskar Schlemmer's work is his interpretation of space... it is apparent that he experienced space not only through mere vision but with the whole body, with the sense of touch of the dancer and the actor... He transformed into abstract terms of geometry or mechanics his observation of the human figure moving in space." Gropius and Wensinger, *The Theater of the Bauhaus*, 8.

<sup>10</sup> "The relationship of the 'geometry of the plane' to the 'stereometry of the space' could be *felt* if one were to imagine 'a space filled with a soft pliable substance in which the figures of the sequence of the dancer's movements were to harden as a negative form..." Goldberg, *Performance Art*, 105-106.

<sup>11</sup> "Let us now observe the appearance of the human figure as an event and recognize that from the very moment at which it becomes a part of the stage, it also becomes a "space-bewitched" creature, so to speak. Automatically and predictably, each gesture or motion is translated in meaningful terms into a unique sphere of activity." Oskar Schlemmer, "Theater (Bühne)," 96.

performance, but form the basis of the digital signals or MIDI-data used in MIDI-triggering and controlling devices used today to allow performers to control or influence media (including audio and video) on stage such as the MidiDancer which will be discussed in this section.<sup>12</sup> Furthermore, the contributions of Bauhaus experimentation with space lend perspective to today's use of motion capture in performance.

Oskar Schlemmer created works which divided and mapped space, and placed the performer's body in the middle of the spatial creative problem. Through their gestures, often simplified by costuming, or amplified or extended by prosthetic appendages, they traced the space, creating artistic strokes, painting the space with their movements.<sup>13</sup>

In the case of the *Slat Dance*, in 1927 (as seen on the title page of Goldberg's text, *Performance Art: From Futurism to the Present*), the dancer's limbs were extended through space by the use of attached slats. "The actions of lifting and bending the limbs of the body could be seen only in the movements of the long, thin slats projecting from the body of the dancer."<sup>14</sup> This description echoes the current system of luminescent makers attached to a dark motion capture suit, creating points of visibility on the body of

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<sup>12</sup> "In 1926 he described his *psofarmoni*, keyboard instruments that, in a sense, seem to foreshadow John Cage's 'prepared piano': 'Some of these new sounds imitate nature: wind, water, etc. Others the voices of animals: frogs, cicadas.'" Kirby, *Futurist Performance*, 39; It is interesting to note that the idea of instruments that play in reaction to (seemingly indirect) human movement (like MIDI triggers) can be traced back to ancient Greece where Heron of Alexandria created an invention "designed to produce a trumpet sound on the opening of a temple door." Brumbaugh, *Ancient Greek Gadgets and Machines*, 98.

<sup>13</sup> "The effect of the tights and masks together is to regroup the various and diffuse parts of the human body into a simple, unified form...and if we let them measure out their space...If we put certain basic forms, such as a ball, a club, a wand, and a pole, into their hands, and if we let their gestures and movements instinctively follow what these shapes convey to them, the result is what we can call 'form dance.'" Oskar Schlemmer, "Theater (Bühne)," In *The Theater of the Bauhaus*, edited by Walter Gropius, and Arthur S. Wensinger (Baltimore: The Johns Hopkins University Press, 1961), 97.

<sup>14</sup> Goldberg, *Performance Art*, 107.

the dancer or the digital version of these points creating something where there is nothing, in the void of virtual space.<sup>15</sup>



*Fig. 32: Many thanks to Dr. Saltz, pictured here with me trying on motion capture suit at Georgia's Lab. Notice how the luminous markers positioned at strategic points on the body reflect light and allow the outline of the body to be seen against areas of a dark background. Photo by author.*

## ***Digitization of Human Motion***

In each of these next productions a perceptual line is drawn and sometimes blurred between the bodies of flesh and bodies of the digital media other with which they interact. The encounter between silhouettes of human and machine is tantalizing to watch, their forms expressing the difference of their makeup and nature. We can identify the difference between ourselves and our non-human media creations through our co-presence with them. Likewise, we can begin to see these outlines between human and

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<sup>15</sup> Schlemmer noted that the figure, performing in semi-darkness, outlined the geometrical division of the space and emphasized the perspective view for the audience. Goldberg, *Performance Art*, 107. The performer's bodies traced geometric shapes in the space. Author Goldberg writes, "He explained that 'out of the plane geometry, out of the pursuit of the straight line, the diagonal, the circle and the curve, a stereometry of space evolves, by the moving vertical line of the dancing figure'." Goldberg, *Performance Art*, 105-106. This figure drawing shapes in space foreshadows important digital performances, such as *Ghost Catching* and other works by Riverbed in collaboration with artists like Bill T. Jones and Merce Cunningham,<sup>15</sup> in which motion capture sensors attached to the limbs and bodies of the dancers draw shapes in space via projected animations.

media other dissolve as the actor's locus of control begins to extend beyond the human body into surrounding space (and later vice versa in mediated impulses).

Ingrid Richardson, and Carly Harper, authors of "Corporeal Virtuality" remind us that, "For Merleau-Ponty perception is a creative receptivity rather than a passive capacity to receive impressions."<sup>16</sup> Creative receptivity and action can be seen in the active response to and triggering of digital media through motion sensing/triggering. By using media go-betweens (connecting human movement and digital response) the performer is using a tool which becomes part of performance. Like Merleau-Ponty's example of a walking stick for the blind, some digital performance tools can 'cease to be an object' as they are incorporated into the performer's "embodied field or corporeal schema...extending the scope and active radius of touch" or performative expression.<sup>17</sup> Bodies using machines and tools do not necessarily become machines or submit to mechanization or the hyper-real, instead digitization can (like a hammer extends the arm to complete a task) become an extension of human creativity and bodily expression.<sup>18</sup> The flow of information between performer and digital technology can even be seen as an interchange as well as an extension. One member of Palindrome (creator of digital dance

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<sup>16</sup> Ingrid Richardson, and Carly Harper, "Corporeal Virtuality: The Impossibility of a Fleshless Ontology," <http://www.mcc.murdoch.edu.au/ReadingRoom/VID/corporeal.html>, (no pagination).

<sup>17</sup> "Crucially, then, in Merleau-Ponty's model of embodiment relations, tools are not conceived of as merely perceptual attachments or extensions, but rather are incorporated into our embodied field or corporeal schema." Richardson and Harper, "Corporeal Virtuality," (no pagination). "The blind man's stick has ceased to be an object for him, and is no longer perceived for itself; its point has become an area of sensitivity, extending the scope and active radius of touch." Richardson and Harper, "Corporeal Virtuality," (no pagination).

<sup>18</sup> "...hitting the nail, I become the machine which drives the nail into the wall by way of the hammer (the hammer acts as a prosthetic limb). As bodies utilize machines, they create new machines out of those encounters and interactions. This does not rob humans of their humanity but simply that bodies constitute their own technologies." Bench, "Virtual Embodiment and the Materiality of Images," 2.

technologies similar, but also unique to those discussed in the forthcoming subsection on Troika Ranch) states this relationship concisely and compellingly:

Dance is a stream of information, visual information to the eye. Just as my words form sentences from ideas in the mind, the computer is a tool for manipulating information, a tool for connecting one kind of information with another, so our work involves taking the image of the dancer's motion, digitising it, turning it into zeros and ones in the computer's chips and memory and then reforming it in sound and light.<sup>19</sup>

### ***Troika Ranch***

Troika Ranch, the award-winning dance-technology company in New York created by Dawn Stoppiello and Mark Coniglio, fashions digital dance-theatre performances which integrate playful, postmodern and sometimes lyrical choreography with digital video and sound media. This extension of the body's control over its media environment is achieved through their MidiDancer (MIDI triggers worn on the body) and Isadora their "dancer-friendly" MIDI-control software.<sup>20</sup> Katherine Farley describes the configuration as:

a bodysuit that allows a dancer to control music, lights and video by his or her movements...(the) MidiDancer, is made of Spandex and is tailored to support and disguise eight wire- sensors and a single transmitter. When the dancer moves, the sensors, located on each wrist, elbow, hip and knee, send information to the transmitter on the waist, which sends it to a computer that commands the lights, music or video...First the MidiDancer tracks a performer's gestures and transmits that information via digital signals to Isadora. Second, Isadora looks at the sensory information,

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<sup>19</sup> Jane Frere, and Mostafa Yarmahmoudi, "Palindrome: A Critical Perspective and Interview," *Body Space and Technology* 4, no. 1 (2004). <http://people.brunel.ac.uk/bst/vol04/janefrere.html>.

<sup>20</sup> Mark Coniglio at Troika Ranch workshop in NY June 2003. "MidiDancer is a wireless movement sensing system worn on the body of a dancer or other performer. It uses sensors to measure the flexion of up to eight joints on the dancer's body and then transmits the position of each of those joints to a computer off stage. Once interpreted by software running on the computer, the information can be used to control a variety of computer-controllable media including digital video or audio files, theatrical lighting, robotic set pieces or any number of other computer controllable devices." Dawn Stoppiello, with Mark Coniglio, "Troika Ranch," <http://www.troikaranch.org/>.

interprets it in a predefined way and sends signals to the media devices being controlled to achieve the desired result. Finally, the media devices present the media as instructed.<sup>21</sup>

The dancer wearing the MidiDancer is un-tethered to any external wires and able to relocate in multiple theatre venues. Through bending their arms or legs this dancer is able to shape the audio and video world around them and paint landscapes of sound and light which react to their whim.



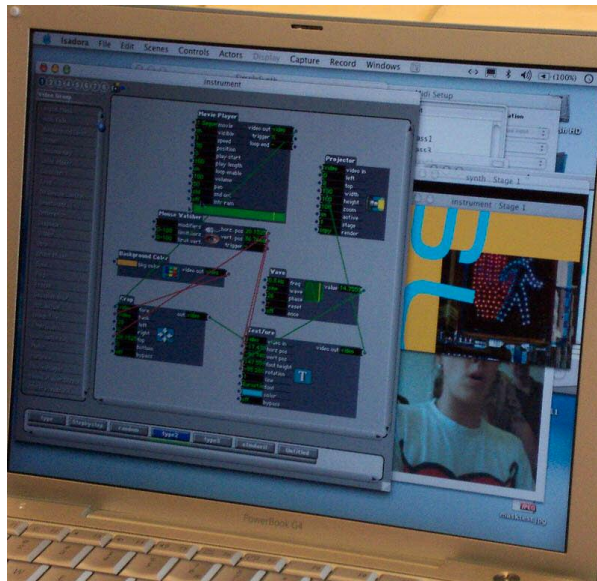
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<sup>21</sup> Emily O. Wilson, "Dance and Technology," *Dance Online*, <http://www.danceonline.com/>.





*Figs. 33, 34, and 35: Two Live-I workshop participants demonstrate a tango while wearing the MidiDancer to trigger media based on their movements. Note the relative portability of the gear as mentioned earlier. Photos by author.*



*Figs. 36, 37, and 38: The Live I workshop, experimenting with video capture, Isadora patch in process. Photos by author.*

In the Live I (Isadora workshop) I attended in the summer of 2003, we learned about and experimented with both Isadora and the MidiDancer. But before we began practical lessons and play, Coniglio and Stoppiello spoke about the range of improvisation using media from mutable to a fixed score and asked us to consider whether or not it is important the audience be aware of the direct relationship between a performer's actions and media reaction (See Saltz's discussion of 'The paradox of the interactor' discussed later in relation to *Kaspar*).<sup>22</sup> In asking "why is it important that the performer calls up sound media (that is) emanating from them?" Troika has chosen to answer ascetically in terms of "Memory." They feel that by manipulating the timing and dynamics of the media the performer has choice, which is parallel to control or agency for the performer as their body extends its creative reach.

Two challenging ideas are present in their works, the body dancing with its media double or non-human other, and the creation of place through the extension of the actor's body laterally by the extension of their limbs, culminating in the perception that their reach extends well beyond the limits of their finger tips or the arch of their gestures. In the Digital Theatre piece involving both dance and text, *The Chemical Wedding of Christian Rosenkreutz* the use of a several cameras including one mounted to the protagonists head produce images of a second self projected on a large screen, at once fracturing the self and bringing the audience closer to the details of the character's mental transformation. In *Future of Memory*, the performers movements trigger and manipulate

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<sup>22</sup> The "sphere of interactivity" includes "a conductor imposed (fixed video), clarity (control perceivable result, dancer's freedom (predetermined music), improvised, obscurity (media result not clear), and musician (notes equal action)." From my lecture notes, summer, 2003. "Expectations of interactivity—means that the audience is trying to see the relationship between triggered events. Does it matter that the audience knows it's (performer) interactive (triggered)? They suggest initially establishing conventions "getting across the way it works" and moving on." From my lecture notes, summer, 2003.

video passages which reveal past images of themselves, falling, flying, growing. They create a landscape with and through their bodies, mediated bodies controlled by the living breathing active humans on stage.<sup>23</sup>

In Troika Ranch's work *The Chemical Wedding of Christian Rosenkreutz*, dance, video and spoken words combine to tell the obtuse and experiential story of among other things, a man who volunteers for a lobotomy, replacing his brain with a synthetic structure (perhaps a computer, perhaps the Internet<sup>24</sup>), making him into a cyborg.<sup>25</sup> The use of the MidiDancer to control media allows the audience to be inside his experience of memories (even mental capacity or personality) distorted and controlled.

Watching the archival tape, I was struck by a sense of being inside another's perception of the world, there was a sense of contained release as the sensations experienced by the character (as commented on by words) are shaped into sound and image through his moment. The actor, Isadora creator Mark Coniglio, surrounded by dancers walked through dance-like gestures as he spoke, and it was beautifully clear that the bend of his elbow or the graceful raising of his arm shaped our perception of the

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<sup>23</sup> "*The Chemical Wedding of Christian Rosenkreutz* utilizes movement, sound, graphic imagery and spoken word performance to explore the transformation process undertaken by two characters, one set five hundred years in the past and the other fifty years in the future. The work, taken from a literary source, examines the writings of a (fictitious) seventeenth-century alchemist who is summoned by an Angel to partake in a chemical wedding (a mysterious festival that bears very little resemblance to actual nuptial proceedings). The story is a journey of discovery, rejuvenation and rebirth. In exploring the theme of transformation, Troika Ranch dancers attempt to unearth the richness gained from transitory moments and the sadness and confusion resulting from letting go." Katherine Farley, "Digital Dance Theatre: The Marriage of Computers, Choreography and Techno/Human Reactivity." *Body Space and Technology* 3, no. 1 (2002).

<sup>24</sup> The text references "*Unending Connections*."

<sup>25</sup> Mark Coniglio, and Dawn Stoppiello, *The Chemical Wedding of Christian Rosenkreutz* DVD recording, Produced by Troika Ranch, Recorded in performance at The Lied Center for the Performing Arts, Lincoln, Nebraska, April, 2001. Through the use of a head-mounted camera recording not what he sees, but an extreme close-up of Rosenkreutz's face which is projected on a small round screen hung at about proscenium height stage left at the same time as the actor is co-present and visible on stage, this gives the sense of duality and a fractured identity under surveillance.

moment -primarily through sound, just as the character's perception of life (and his mental capacity as shaped by the post-operative process) fluctuated subtly in the moment. It gave the sense of being inside another's mental perceptions.

An expressive use of the MidiDancer was when a dancer walked around the stage, and then stopped abruptly while she said "silence." Her commanding gesture stopped all sound on the stage. The core of the piece can be found in a section about lobotomy where the actor uses a MidiDancer controlled playback of the image-body. There is a projection of the character's mediated self, his head shaved jittering on the screen caught in a loop (controlled by body movement) thus jerking like a mental spasm as the recording is pointing to a lobotomy scar.<sup>26</sup> This gave an intense sense of enacting mental fragmentation. The character is willing to sacrifice "the most delicate thing in my life...me" for a fresh start.<sup>27</sup> In a sense, this is the sacrifice of the "live" body to mediation as the character becomes a cyborg, his precious self replaced by a network of technology.<sup>28</sup> In the end Coniglio is lifted by dancers and carried off stage, on screen his image body's mind has been wiped clean, indicated by the transition from aged to young

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<sup>26</sup> As the actor speaks "I was never the same" the ensemble of dancers unfold giant piece of paper used as creased projection surface on to which Mark's face is later projected it. The lobotomy footage begins (and repeats) "they made a slit right here...they replaced it...the twister inside my head.." followed by scrubbing the playback of video speaking "new brain...computer...had a new soul...revitalized!" Text transcribed from archival footage of performance. Mark Coniglio, and Dawn Stoppiello, *The Chemical Wedding of Christian Rosenkreutz* DVD recording,

<sup>27</sup> Text transcribed from archival footage of performance. Mark Coniglio, and Dawn Stoppiello, *The Chemical Wedding of Christian Rosenkreutz* DVD recording, Also spoken as "the most delicate thing in your life...yourself." Text transcribed from archival footage of performance. "I've been through too many doors." He is "changed, crystallized, precise" and says "somewhere deep down the experience was exquisite" it "gives me an empire of surprise." Remarking on the transformation, "one moment I'm the me before, and the next I'm the me after" (repeat).

<sup>28</sup> Text from scene: "now everything is linked together" "I saw a giant crystalline structure...riding the K lines.." "at that moment they make the copy, my mind will be broadcast...like over the radio...someone could add up those numbers...and out would pop a perfect copy of me. (My memories, anyway.)" Text transcribed from archival footage of performance. Mark Coniglio, and Dawn Stoppiello, *Future of Memory*, DVD recording,

as his video face is covered with flowers and uncovered to reveal the face of a newborn baby. In this piece, again the neo-Bakhtinian body is present in the dialogic encounter between the performer's "liveness" and the image-body's controllability.<sup>29</sup> It is not the conclusion of the narrative plot which signals the fate of the body vs. the hyperreal, but that an exchange occurred which could inform the audience about the two states.

*Future of Memory* also deals with the mind and memory, through the body and media. In this piece the dancers speak directly to cameras located at the edge of the playing space which record and capture their stories, gestures and rants which are projected in real-time and downloaded to a Isadora library or media cue from which they can be pulled-up and played back at different speeds and directions (scrubbing backward and forward, occasionally image distorting filters are applied). The direction and speed of the playback of the mediated self, or memory, is directly controlled by the body positions of the dancers wearing the MidiDancer. Again the "live" bodies control the play-back of their video mediated representations (image bodies).

Four vignettes stand out in the production including: Dawn Stoppiello applying invisible writing on her face as she is shot from a side camera (demonstrated by line on stage shot from another point of view looking diagonally), Danielle Goldman raging at the camera "where were you?!"<sup>30</sup> with fists raised and lowered to the sides of her head (which when slowed down made her look like and sound like an angry ape, just as a disconnected childhood memory of anger might be distorted out of proportion due to the

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<sup>29</sup> In another piece one gets a sense of this rebellious human body interacting with media. "A little later, her left arm, when moved at a high velocity triggers video clips, while the right arm triggers (again at a high velocity) a loud crashing sound that turns into a gesture of defiance." Dawn Stoppiello and Mark Coniglio, "Media/Technology: MidiDancer," from the Troika Ranch website, <http://www.troikaranch.org/>.

<sup>30</sup> Text transcribed from archival footage of performance. Mark Coniglio, and Dawn Stoppiello, *Future of Memory*, DVD recording,

emotional intensity of the triggering event), one of the male dancers talking about a birthday party, and another dancer simply dropping a stone in front of the camera (which could then be caught and released at will by the dancer, dancing the media).

Playing with the obscure and malleable temporal nature of memories is made possible by the digitally enabled bodies of the dancers. This use of the body to stage the play and replay of memory is an eloquent choice, for it is only through our bodies and our embodiment that our imperfect perception of the world (demonstrated by memory) can exist. Segments of video replaying visions (of the ocean shore—water washing over feet, rollercoaster, water droplets, flame) are repeated along with projections of these acted memory performances on a multiple paneled projection surface in which multiples and multiple views of the performers play against the presence of their uncertain physical bodies (selves) on stage. Like some of Svoboda's work, the body is fragmented and multiplied on screen, as in the projection of multiples of Stoppiello's dancing feet.





Figs. 39, 40, 41, and 42: Images from *Future of Memory*, created by Troika Ranch. L to R: Dawn Stoppiello, Sandra Tillett, Michou Szabo & the company, and Danielle Goldman. Images copyright Richard Termine, used with permission

Ultimately, the MidiDancer (and Isadora) as utilized by Troika Ranch is a dance between the mediated and the “live” giving the performer impressive control over their performative situation in the media drenched world in which they (an by proxy, we) inhabit.<sup>31</sup> The Troika website reads:

With the MidiDancer the performer is given real-time control over numerous aspects of the live performance. On one level the control is over individual sonic and visual events. Above this, she is the one who decides when to move from one scene to the next—perhaps the greatest advantage over a prerecorded performance. But the ultimate point of using such a technology for dance is to extend the capabilities of the body in a meaningful way, in a way that allows us, the audience, and the performer to amplify the immediacy of live performance.<sup>32</sup>

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<sup>31</sup> In her article in *Women, Art, and Technology* Stoppiello writes about the influence of technology on her choreography, “Through this process, my choreography has changed in response to my close contact with computers and computer-controlled devices. As a choreographer and dancer, my relationship to the world begins with my relationship to my body. As an artist working with computer technology, my relationship to the world is filtered through a hyperriver of bits per forming multiple operations in parallel as they flow madly through computer space-time. This duality has infiltrated my choreographic sensibility.” Dawn Stoppiello, with Mark Coniglio, “FleshMotor,” In *Women, Art, and Technology*, edited by Judy Malloy (London: The MIT Press, 1995), 441. In a sense she indicates that she is also dancing with and in reaction to the image body.

<sup>32</sup> Dawn Stoppiello and Mark Coniglio, “Media/Technology: MidiDancer,” from the Troika Ranch website, <http://www.troikaranch.org/>.

In the work of Troika Ranch the agency of the performers to create and control the media is playful and present (though sometimes elusive as to cause and effect). In this work which often borders on theatre, and in the work of other dance technologists, the performer's body is truly active and in fact activates the space. The MidiDancer is in a sense at times an instrumental costume and working with it has been compared to improvisational jazz.<sup>33</sup> "With the MidiDancer, the dancer is no longer reflecting the music, no longer confined by a musical score. The dancer, rather, is conducting it."<sup>34</sup>

"Wearing the MidiDancer," Stoppiello says, "a dancer is not only a dancer but is also a choreographer, technician and composer all rolled into one. Anybody who's ever put the MidiDancer suit on (has) a great feeling, because you feel that feeling of your body being bigger than your body, and that's really an incredible thing to do."<sup>35</sup> Clearly, there is a sense that the body is extended by this technology. Through my own experiences, I would agree with this statement.

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<sup>33</sup> "The dancer is seen as an instrument or as becoming the music." Scott deLahunta, "Sampling: Convergences Between Dance and Technology," Multimedia presentation, Art Crash Symposium, Aarhus, Denmark, April 4, 1998. "When she stands in a neutral position, very little sound is heard. But as she improvises and bends her limbs, the rhythmic figures are revealed. From a composer's point of view this is interesting because Dawn truly becomes the final step in the compositional process as she dictates the way in which the music is ultimately performed." From the Troika Ranch website, <http://www.troikaranch.org/>. "For the audience, it is much the same as when we see a live jazz concert: an experience that is intensified by our understanding that the performer is using her skills to follow the energy of the performance as it happens in the moment, and to expose the right material at just the right moment. This moment of controlled chaos is the essence of live performance, and devices like the MidiDancer provide this to both dancer and the audience." Dawn Stoppiello and Mark Coniglio, "Media/Technology: MidiDancer," from the Troika Ranch website, <http://www.troikaranch.org/>.

<sup>34</sup> Emily O. Wilson, "Dance and Technology," *Dance Online*, <http://www.danceonline.com/>.

<sup>35</sup> Emily O. Wilson, "Dance and Technology," *Dance Online*, <http://www.danceonline.com/>.



## ***L'Universe***

Likewise, the reach of the body of the performer is extended in *L'Universe*, a collaboration between the Flying Karamazov Brothers, a troupe of comedic jugglers, Neil Gershenfeld of the Physics and Media Group at MIT, and the MIT Media Lab's Things That Think Consortium.<sup>36</sup> In *L'Universe*, the body of the performer is in constant communication with the digital appendages which surround them. Here the dexterity of the performer's bodies is matched throw for throw with the responsiveness of the digital medium. Again the human is paired off with the digital to the best advantage of each.<sup>37</sup> "Gershenfeld created special juggling clubs with programmable displays, and used sonar, long-range RF links and computer vision to track the positions and movements of the four performers. This technology was used to create a complex interplay between the performers and media, with the jugglers' actions automatically triggering sounds and altering the color of the clubs."<sup>38</sup>

Because the emphasis is placed on the existence of a clear action and reaction, the working relationship between skilled human bodies and obedient/clever devices becomes the heart of the entertainment, though there is also a loose plot. "The Karamazovs appear onscreen, impishly interacting with their live selves onstage. They juggle virtual planets and other celestial orbs as well as a dazzling array of glowing balls and clubs that

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<sup>36</sup> Robert Hurwitt, "Karamazovs Juggle Puns, Technology in Show," *San Francisco Chronicle*, April 18, 2002, D5.

<sup>37</sup> Enacting the entertainment and social capital gained by the scientists and the Brothers in their collaboration. They also rely on audience participation, one time selecting a small child out of the audience to playfully bat a projected image of the moon around the screen, and another time selecting an audience member to try on and demonstrate their motion-capture musical apparatus.

<sup>38</sup> David Z. Saltz, "Performing Arts," in *A Companion to Digital Humanities*, edited by Susan Schreibman, Ray Siemens, and John Unsworth (Malden, MA: Blackwell Publishing, 2004), 127.

magically change colors as they pass from hand to hand.”<sup>39</sup> This is an example of the body and the digital machine coexisting not just harmoniously, but primarily for amusement and novelty.

According to the program notes,

In *L’Universe*, you will see wearable computers that communicate relative position, pitch, tonal quality, volume and duration through micromachined analogue devices called accelerometers, to make beautiful music through movement. You’ll be invited into a virtual universe where planets defy the laws of gravity while being juggled by shadows. And you’ll also be able to track the pattern of clubs electronically as they change their color according to their relative position in mid air.<sup>40</sup>

From my notes, impressions, and discussion with the Brothers after the show, what stood out about the experience was the playful integration of technology and performance. As clubs were passed, the performers moved through the space creating music through their position and gestures. In addition to playing the space with the “jugglatron” there was also a large harness drum-machine which would be triggered by contact with the clubs.<sup>41</sup> The Flying Karamazov Brothers also utilized a screen, as noted by journalist Robert Hurwitt:

Christopher Barreca’s clean, minimalist set frames the action within steel lighting towers against a large disc that looks like an upended trampoline. The disc serves as a screen for terrific sequences of computer graphics, very funny shadow play, complex animation and other images generated by a mischievous HAL-like computer named Joy (which explains the juggle-generated bit of Beethoven’s ‘Ode to Joy’) and manipulated by Matthew Ostrowski as the frazzled tech-board operator Steve.<sup>42</sup>

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<sup>39</sup> Hurwitt, “Karamazovs Juggle Puns, Technology in Show,” D5.

<sup>40</sup> Paul Magid and Howard Jay Patterson, *The Flying Karamazov Brothers, L’Universe* program, front inside cover (Berkeley Repertory Theatre, Berkeley, California, 4 May, 2002).

<sup>41</sup> Paul Magid, and Howard Jay Patterson, “The Flying Karamazov Brothers.” <http://www.fkb.com>.

<sup>42</sup> Hurwitt, “Karamazovs Juggle Puns, Technology in Show,” D5.

The Karamazov Brothers' physical (or bodily) skill-based showmanship was extended through projections, triggers, and sensors.

### ***Synesthesia in The Tempest and The Magic Flute***

Perhaps the most attractive and appealing uses of human/digital interaction triggered by human bodies can be found in the motion-capture and sound triggered landscapes created by David Saltz and Mark Reaney in their respective productions of *The Tempest* and *Magic Flute*, two productions which I will be referring to throughout this work. I briefly mentioned the sprite Ariel's motion-capture link with the animated version of her projected on the set's screen in the University of Georgia's *The Tempest*. What was perhaps one of the most clever (and literal) interpretation of Shakespeare's text, Dr. Saltz and team created a digital relay that allowed the performer's body movements to shape the very environment of the play. As her arms swayed and moved, they determined the pitch and horizon of the sea. Her body shaped the digital landscape and "danced the storm" the major spectacle of this imagined place.<sup>43</sup> Saltz writes:

The scene takes place on the deck of the ship, and the projection screen at the back of the stage showed the stormy sea behind the characters. Snow held her arms in a crucifix pose, creating a line parallel to the horizon. Her arms represented the surface of the ocean, and as she swayed side to side and pitched forward and back, the sea moved with her. In this way, the actress 'played' the sea, which became not merely an inanimate setting but an active agent.<sup>44</sup>

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<sup>43</sup> "In the opening scene, the screen was filled with an animation of wave surges and occasional lightning. When I first spoke to Saltz about the production, he envisioned Ariel's 'dancing the storm,' the actor's body moving within the motion-capture suit to create the projected waves. As the actor gestured, the audience would see that gesture interpreted as thunder, wind, and lightning. In production, the animation was keyed to the arm movements of Ariel's motion-capture suit: as she raised her right arm, the waves rose toward the right and so forth." Teague, "The Digital Tempest 2000."

<sup>44</sup> Saltz, "Live Media," 123.

Here again the gestures body of “live” actor are extended through technology, this time the body’s movements become integrated into the very scenic spectacle or animated place surrounding her (via projections).

In Reaney’s *The Magic Flute*, the volume and pitch of the performer’s voices and flute create a fluid, swirling and ever-changing visual landscape of animated sound. By using a program much like the music visualization software found in Microsoft’s Windows Media Player, set to accept live rather than pre-recorded input to convert volume and pitch data into visualizations of sound, Reaney created kaleidoscopes of color and motion which were painted by the very breath of the singers on stage. These bodies were exhaling visual art. In the second trial breaking the silence, Pamina sings to the muted Tamino. Her voice becomes art. It wraps around a projected purple shape like a wood knot or the eye of a peacock feather. This is perhaps one of the most beautiful and natural uses of projection; to provide a visual form for sound waves, creating a poetry of lines, shapes, and movements to sound (much like *Fantasia* or the *Dot and the Line* film). It was as though you could feel the music; ebbs of sound spirals and lines of motion. She floated in her own voice, her inner state lost in spirals. It looked like a sock weaving itself from the inside. To my mind, this is a demonstration of the possibility of perfect harmony of the human body and the flexible digital impulse.



Figs. 43, 44, and 45: Tamina sings to Pamino, painting the scene with her voice in *The Magic Flute*. Images copyright Steven Hudson-Mairet, used with permission

This type of blending of perceptual modes, or Synesthesia as identified by Saltz in his list of the uses of digital media, was also used in *The Tempest* when the animated bubble representing Ariel moved and changed shape with her the pitch of the actress' voice.<sup>45</sup> It is the current enactment of a longstanding theatrical interest in the blending

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<sup>45</sup> “*Synesthesia*. Synesthetic media are similar to affective media, but do not serve so much to tell the audience how to feel about the events onstage as to mirror the performance in a different sense modality. Synesthesia is a neurological condition in which stimulating one sense organ triggers the experience of another sense; for example, a person might ‘hear’ colors or ‘see’ temperature. The undulating bubble in *The Tempest*, which automatically changed size and shape in response to Ariel’s voice, was a classic example of synesthetic media. The animation functioned here as a picture of the sound, translating the music’s rhythms, tone, and intensity into images.” Saltz, “Live Media,” 126.

and overlap between media. In fact the Futurists were among the first to work with light to create the impression or visual equivalent and accompaniment to sound.<sup>46</sup> “Montalti mentioned that his Electric-Vibrating-Luminous Theatre was also to be used to create visual representations of musical symphonies...” thus creating a sense of “synesthesia.”<sup>47</sup> Kirby defines synesthesia as: “the hypothetical concept that the stimulation of one sense can cause a subjective response in another sense.”<sup>48</sup> This idea of synesthesia is essentially a crossing-point between disciplines and mediums and is essential to movements (like Futurism) which blend art forms, as does the digital blending of sensory data in Digital Theatre (as Ariel’s bubble in *The Tempest* and voice visualization in *The Magic Flute*).<sup>49</sup>

Like technology which allows dancers and jugglers to extend their limbs to shape the media around them, digital synesthesia extends the reach of creative expression. Synesthesia extends the reach of one expressive mode of the body into the realm of another, from voice to sight, mouth to eyes, linking the expressive qualities of the performing body with its place.

I have been asked whether or not it matters to an audience if a performance is interactive, or if it just affects the performers. My answer is yes. Yes, I believe that

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<sup>46</sup> Adolphe Appia’s play between light, music, space, and bodies in his “Rhythmic Spaces” drawings and working with Dalcroze at Hellearau in 1913 (as in Gluck’s *Orpheus and Eurydice*) could be considered a forerunner to this type of audio/visual synthesis. Oscar G. Brockett, and Robert Findlay, *Century of Innovation: A History of European and American Theatre and Drama Since 1870* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1973), 203-206.

<sup>47</sup> Kirby, *Futurist Performance*, 92.

<sup>48</sup> Kirby, *Futurist Performance*, 100.

<sup>49</sup> Futurists: “Scriabin built a color organ in an attempt to convert music into visual images; Kandinsky considered the relationship of sound and color; Kupka wrote of the relationship of movement to the sensory centers; Prampolini himself published *La Croma/onia*, subtitled ‘The Color of Sound,’ in 1913...This interest in sensory correspondence and ‘psychological synchronism’ can be traced back to Wagner’s theory of the *Gesamt kunstwerk* or ‘total artwork.’” Kirby, *Futurist Performance*, 100.

audience members (myself included) present at performances by Troika Ranch, and *The Magic Flute* designed by Mark Reaney, for example, appreciated changes in the environment triggered by the performers. While it is true that spectacle with the appearance of interactiveness can be reproduced by cuing in some cases, and that digital performance resembles conceptual art in that informing the audience of the digital magic they are about to see helps people enjoy the show, I do think there is something more to it than that. Ideally, audience members experience a sense of flexibility and in-the-moment responsiveness, a certain dialogue between the “live” performer and the performance by the digital technology as the two work in concert. Even if the audience is not fully aware of the direct relationship between the performer’s actions and the digital media reaction, if the performer is freed by the flexibility of the digital media, they will engage in play which positively affects the artistic outcome, which is then experienced by the audience.

## Chapter 5. Digital Illusionary Place

*Theatre is the original virtual reality machine. Accessing it audiences can visit imaginary worlds which are interactive and immersive. Traditional theatre...offered experiences which were indeed immersive and interactive, and made possible by the technological means available at the time. The theatre as a 'machine'...[is] composed of animate and inanimate parts that make it possible to transport audiences to other worlds.*<sup>1</sup> ~Mark Reaney

In the chapters on the body, I discussed the ways in which the performer's body acted as the "who," the subject and vehicle of creative expression in performance. This active body needs an environment or "where" or place in which to exist; the actor needs a stage on which to perform and the character needs a world in which to live. In these next two chapters, I will explore the places of theatre.<sup>2</sup>

Theatre is a place for seeing and hearing the performance of other places.<sup>3</sup> On stage real and imagined landscapes create spaces in which actions and interactions can "take place." In fact, Grotowski defined theatre as what 'takes place' between actors and audience, which indicates that it must exist somewhere.<sup>4</sup> One could even say that, in a sense, theatre is place practiced.

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<sup>1</sup> Mark Reaney, quoted in David-Michael Allen, "The Nature of Spectatorial Distance in VR Theatre," in *Theatre in Cyberspace: Issues of Teaching, Acting, and Directing*, edited by Stephen A. Schrum, 1-6 (New York: Peter Lang Publishing, 1999), 242.

<sup>2</sup>"For actors, it is not a question of spatial relationships, except in terms of blocking, of where they are supposed to be at a certain moment. Theirs is the experience of place. Where am I now? What do I do with the objects around me?" John Lutterbie, "Phenomenology and the Dramaturgy of Space and Place," *Journal of Dramatic Theory and Criticism* 16, no. 1 (Fall, 2001): 129.

<sup>3</sup>"The first *theatron* (or 'seeing place,' as the auditorium was termed by the Greeks) of the Theatre of Dionysus was the hillside that sloped down from the southeast corner of the Acropolis." Oscar G. Brockett and Franklin J. Hildy, *History of the Theatre*, Ninth Edition (Boston: Allyn and Bacon, 2003), 31.

<sup>4</sup> Grotowski defines theatre essentially in terms of this relationship, saying: "'We can thus define the theatre', as 'what takes place between spectator and actor'... for an event to occur, it must 'take place,' that is, be located some where." Gay McAuley, *Space in Performance: Making Meaning in the Theatre* (Ann Arbor: University of Michigan Press, 2000), 1.



Just as theatre performance is both actual and fictional, we know the place of the theatre is real and not real as we see the house and the stage itself as well as the place represented on the stage in the set.<sup>5</sup> In theatre place is doubly present for there is the actual physical location of performance at the same time there is the fictional location of the story being told. Place is present as the physical reality of the building which remains at least minimally perceptually present during the theatrical experience as the stage and house, as well as in the imagined locations created by sets (and other scenic design elements) and invoked in the minds of the audience.<sup>6</sup> For my purposes, it is not essential what type of environment is evoked, whether realistic or abstract, but that we realize that in each case a setting for an imagined place is a necessary part of the theatrical experience which is, in itself, a process of joining the real physical place (building) and the imagined place (setting).

In this chapter I will show how illusionary places of the theatre are altered or mixed through the addition of digital technology. In the next chapter I will be discussing the place of performance in terms of real theatre places (including stages, galleries, and environmental stagings using buildings) altered by the addition of technology. Whereas, in this chapter, I will describe digital technology's (especially 3D animated scenery) ability to create the illusion of place (movement, depth, etc) as a continuation of the

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<sup>5</sup> "Just as negation permits a person to both admit and deny a fact, to admit to some level of consciousness a fact that the conscious mind refuses to acknowledge, so in the theatre we can know that some thing is real and not real time. Spectators see the duel in which Hamlet is killed, they know are real and the bodies are real, they even know that Hamlet is dead, and they know at the same time that no one is dead." McAuley, *Space in Performance*, 40.

<sup>6</sup> "Theatre is an art form that plays intensively with notions of inside and outside, particularly onstage/offstage relation and presenting fictional...but the theatre building itself, in its relation to its surroundings, is also part of this interplay. There are theatres that blend with their environment, others that may dominate it." McAuley, *Space in Performance*, 51.

desire to create the spectacle of place filled by past technologies. These forerunners include Italianate scenery, panoramic and Melodrama spectacle, as well as filmic projection (Piscator and Svoboda).

## ***On Place***

Our exploration of place through theatre is a natural expression of our innate curiosity about the world around us. Place is such as such a pervasive and essential term that its meaning is at once instinctive and facile, yet elusive and complicated. John Lutterbie writes,

It is more difficult to talk about place because it is present for us at every moment of our existence. So pervasive is the experience of place that it is impossible for us to imagine ourselves without being some place, even if that 'place' is a non corporeal existence in the fantasies of cyber-fiction. The fact that it is inescapable also defines its seeming invisibility. We do not, indeed should not, constantly be aware of place... Because it is a matrix, rather than a singular or unified locus, it is impossible for us to be fully aware of the place we inhabit or our connections to it.<sup>7</sup>

Yet we need place, perhaps now more than ever, as it defines our location and our groundedness. Michel de Certeau sees place as a location defined by its sameness or relative stability.<sup>8</sup>

Today, the concept of "Place" has gained greater significance in scholarly writing.<sup>9</sup> The term landscape has also been increasingly popular among scholars looking

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<sup>7</sup> Lutterbie, "Phenomenology and the Dramaturgy of Space and Place," 127.

<sup>8</sup> "A place (lieu) is the order (of whatever kind) in accord with which elements are distributed in relationships of coexistence. It thus excludes the possibility of two things being in the same location. The law of the 'Improper' rules in the place: the elements taken into consideration are beside one another, each situated in its own improperly and distinct location, a location it defines. A place is thus an instantaneous configuration of positions. It implies an indication of stability." Michel de Certeau, *The Practice of Everyday Life*, translated by Steven F. Rendall (Berkeley: University of California Press, 2002), 117.

for concepts to frame our current relationship to our environment.<sup>10</sup> Landscape is a term which commonly relates to place. As term stemming from painting, it carries with it the notion of observation and aesthetic distance; as the subject of the vista is offered to the viewer from a particular vantage point, or perspective.<sup>11</sup> Landscape been come to be described as “the framing, or staging, of geography,” a nexus of inhabitation, place, and value, and though some find it lacking the tangibility of land, yet it is tied to human life, “linking place to people, land to living.”<sup>12</sup>

Fuchs and Chaudhuri write that landscape is “inside space...but contains place,” while Lippard sees landscape as place seen from outside, stating that: “A lived-in

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<sup>9</sup> “In recent decades, a vigorous inquiry into the role of spatial experience in constructing cultural meaning has been under way in many fields resulting in renewed interest in topography, geography, and map ping as well as new attention to the specificity of place. These developments have had particular impact in the humanities with the accelerating recognition that the linguistic model does not offer a sufficient account of the real world in a time-collapsed global structure. Theater, with its long history of landscape representation and its more recent history of landscape practice, should now enter this burgeoning dialogue on landscape...On the theoretical scene of landscape, the theater makes a belated entrance. In spite of our widespread suspicion, first voiced by Gertrude Stein, that plays are landscapes, the theater has had no part whatsoever in the lively conversation—now a heated debate—about the history and meaning of landscape.” Una Chaudhuri, “Land/Scape/Theory,” In *Land/Scape/Theater*, edited by Elinor Fuchs, and Una Chaudhuri, 11-29 (Ann Arbor: The University of Michigan Press, 2002), 11.

<sup>10</sup> Elinor Fuchs and Una Chaudhuri suggest that the term “landscape” can illuminate current theatrical trends. “The meanings that attach to landscape, we suggest, can elaborate the nature and implications of this ‘spatial turn’ in modern drama and theater. Landscape names the modern theater’s new spatial paradigm.” Elinor Fuchs, and Una Chaudhuri, “Introduction: Land/Scape/Theater and the New Spatial Paradigm,” in *Land/Scape/Theater*, edited by Elinor Fuchs, and Una Chaudhuri, 1-7 (Ann Arbor: The University of Michigan Press, 2002), 2.

<sup>11</sup> “In the contemporary western world we ‘perceive’ landscapes, we are the point from which the ‘seeing’ occurs. It is thus an ego-centered landscape...” Barbara Bender, “Introduction: Landscape—Meaning and Action,” in *Landscape: Politics and Perspectives*, edited by Barbara Bender (Oxford: Berg, 1993), 1. Quoted in Chaudhuri, “Land/Scape/Theory,” 15.

<sup>12</sup> Chaudhuri, “Land/Scape/Theory,” 15; Pearson, and Shanks, *Theatre/Archaeology*, 39; See Phil MacNaghten, and John Urry, “Bodies of Nature: Introduction,” in *Bodies of Nature*, edited by Phil MacNaghten and John Urry, 1-11 (London: Sage Publications, Ltd., 2001), 7-8; “The concept of landscape refers to both natural environment and elements of human agency, with environment seen as socially constructed, culturally constituted.” Pearson, and Shanks, *Theatre/Archaeology*, 41; “The word landscape itself is derived from the Dutch *landschap* (which in turn derives from Middle Dutch *landscap*, ‘land’: land + -scap (collective suffix): ‘state, condition’). Closely related Danish *landskab*, German *landschaft* landscape, with suffixes meaning ‘to shape’ and also (as in the English -ship) ‘association’ and ‘partnership.’” Chaudhuri, “Land/Scape/Theory,” 13.

landscape becomes a place, which implies intimacy; a once-lived-in landscape can be a place, if explored, or remain a landscape, if simply observed...place is where we stand to look around at landscape or look out to the (less familiar) ‘view.’”<sup>13</sup> I prefer the idea that place offers a possible point of connection rather than utilizing landscape as a mediating term between place and space as suggested by Chaudhuri. Because the term ‘landscape’ is linked with human actions (living, viewing) it is a compelling term to use to describe illusionary places seen in stage settings. The lack of agreement on the relationship between human experience/presence and outside observation leads me to continue to primarily use the term “place.”

In Marc Augé’s exploration of space as an active volume of movement or “a practiced place,” we can see the connection of space and place to cyberspace. In our relatively recent history we have entered a whole new conceptual space; a place constructed by information and data rather than physical surroundings.<sup>14</sup> The Internet, commonly referred to as cyberspace, is defined by Alice Rayer, as placeless. She writes:

One speaks of worlds, rooms, domains, fields, environments, architectures: words that help to conceive computational reality in the familiar terms for definable spaces. Such spatial terms, promising enclosures, offer the comfort of boundaries within...cyberspace. They serve to allay the vertigo of spacelessness...Roads, highways, travelogues, and trips appear as the organizing images for cyberspace sites that in themselves have no place.<sup>15</sup>

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<sup>13</sup> Fuchs, and Chaudhuri, “Introduction: Land/Scape/Theater and the New Spatial Paradigm,” 3; Lippard, *The Lure of the Local*, 7-8.

<sup>14</sup> de Certeau, *The Practice of Everyday Life*, 117; See Alice Rayner, “E-Scapes: Performance in the Time of Cyberspace,” in *Land/Scape/Theater*, edited by Elinor Fuchs, and Una Chaudhuri, 350-370 (Ann Arbor: The University of Michigan Press, 2002), 350.

<sup>15</sup> Rayner, “E-Scapes: Performance in the Time of Cyberspace,” 351.

Because each experience online is shifting and directly determined by the users' actions, it makes sense that the idea of information travel is formless and therefore placeless. By utilizing the term "placelessness" the idea of a place consisting of nothing, or virtual no-man's land comes to the forefront of our collective consciousness, we imagine a new form of place which is an active void. Many of the productions (including *Aladeen* and *A Midsummer Night's Dream*) utilizing digital technology in their spectacle, use its flexibility to re-create cyberspace on stage so that they might explore the its potential landscapes or attempt to create a sense of placelessness as they plumb the meaning and give visualization to cyberplace metaphors—thus creating new conceptual places in their wake.

### ***Scenic or Illusionary Place***

Perhaps one of the most obvious and effective theatrical uses of digital media is employing animation to enliven scenic illusion and to create the spectacle of transformation of place. It is the very stability of place that compels us to watch its transformation on stage. For a moment (usually in scene shifts) solid landscapes—depictions of definite places—become liquid, spatial and adjoining, something against their fundamental nature. 3D animated sets can visually mix the real and the imagined places on the stage and the scene. Through projecting visual worlds or scenic backgrounds created in various 3D animation programs, movement becomes integrated into the visual spectacle, sometimes in fantastic, and other times, seemingly natural ways. Through digital animation changes in place (or within a fictional environment) occur between scene shifts and without the use of hydraulics or other heavy equipment usually employed sparingly for climatic effects. The stage landscape can alter seemingly

effortlessly and subtle changes can occur throughout the action. In addition to providing an illusion of depth, projected objects may take on a life of their own, seemingly shuttering, undulating, rotating, or zooming in toward or away from the stage action creating a “living” backdrop for live actors.

The primary artist exploring projecting animated scenic elements today is Mark Reaney of The Institute for the Exploration of Virtual Realities at the University of Kansas. In this section I will be looking at scenic projection in his productions of *The Magic Flute*, and *A Midsummer Night's Dream*, and the Builder's Association/Motiroiti's original work, *Aladeen*. In each of these pieces, digital technology is facilitating scenic designers' ability to give the illusion of depth and movement. In some cases the physical set and animated illusionary place seem to overlap through the use of Virtual Reality goggles which layer and mix images.

But before I begin looking at these visually enchanting productions, I will examine the precursors which tie them to a long line of performances integrating new visual technologies into creating the illusion and spectacle of imaginary place and its ability to transform and shift onstage. As Klaus Bartels notes, “the universe of the personal computer (PC) draws its inspiration from the magic lantern, the baroque illusionistic theater, and the camera obscura...To better understand the problems of our century, one must search for the keys in that epoch. Without this glance backwards, a vision of the world of today would be unthinkable.”<sup>16</sup>

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<sup>16</sup> Klaus Bartels, “The Box of Digital Images: The World as Computer Theater,” *Diogenes* 163, 45-70 (Fall, 1993): 46.

## **Historical Background**

### **Italianate Spectacle**

In its day, (the early 15<sup>th</sup> century) perspective illusion was considered an astounding and even magical novelty reflecting the ingenuity and artistry of man in an age of invention and pride in individual human accomplishment.<sup>17</sup> (See Appendix D: Historical Background for Digital Illusionary Place.) The optimism of this time of discovery (of both the New World, new Humanist ideas, and rediscovery of ancient texts) was reflected in the expanse of the perspective illusion. Perspective illusion is created by drawing objects and/or theatrical settings so that they appear to diminish in size with distance.

The adaptation of prospective illusion to the stage in Renaissance Italy began a movement toward creating fantastic scenic spectacle which spread throughout Europe and lasted for centuries. Italianate scenery as seen in Medici galas and operatic *intermezzi* and adapted by the French and English stages, was a spectacle of illusionary place.<sup>18</sup> Each scene more compelling, imaginative, luxurious, and radiant than the next, the shifting locations were the delight of royalty and later theatrical audiences.<sup>19</sup>

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<sup>17</sup> Brockett, and Hildy, *History of the Theatre*, Ninth Edition, 165.

<sup>18</sup> In 1611, Serlio, in his book, *Architettura*, defined what types of staging should accompany what types of theatrical production: “Comic scenes: should have a bawdy house, a great Inn, and a church. Tragedies: always happen in the houses of great Lords, Dukes, Princes, and Kings. Satirical scenes: represent Satires, and thus should be ‘rude and rusticall.’ Trees, roots, herbs, flowers.” A.M. Nagler, *A Source Book in Theatrical History* (New York: Dover Publications, Inc, 1952), 74-78.

<sup>19</sup> One theatergoer of the times, John Evelyn, noted in 1645 that there were a “variety of scenes painted and contrived with no less art of perspective and machines for flying in the air, and other wonderful motions; taken together it is one of the most magnificent and expensive diversions the wit of man can invent...the scenes changed thirteen times.” A.M. Nagler, *A Source Book in Theatrical History*, (New York: Dover Publications, Inc, 1952), 167.

Places depicted in these spectacles were not initially tied to scenic changes of location, but motivated by the love of visual change, occurring primarily between acts. These spectacular scenic depictions delighted their audiences with the quickness or fluidity with which one place dissolved into another. A pastoral scene might become a fierce sea, a cave or craggy mountain might dissolve into a great city or a palace, and ultimately all gave way to the glory of the heavens as the ruling class descended from the clouds as deities or symbolic virtues.<sup>20</sup>

In 1664, one audience member, Richard Flecknoe, in *A Short Discourse of the English Stage* commented on scenic entertainments: “They are excellent helps of imagination... transporting you easily without lassitude from one place to another, or rather by a kind of delightful Magick, whilst you sit still, does bring the *place* to you.”<sup>21</sup>

Perhaps the most interesting depictions of place (other than mythical or familiar locations) was the dramatizations of the New World and other explored lands.<sup>22</sup> The

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<sup>20</sup> The delight in the spectacle of place is best characterized by the “magic speed of scene shifting in full view of the audience” (See Nagler, *A Source Book in Theatrical History*, 167), accomplished by the designer Giacomo Torelli. His ingenious mechanical scene-change systems made the transformations of place a source of entertainment in itself.

<sup>21</sup> Richard Flecknoe, *A Short Discourse of the English Stage*, quoted in Campbell, 236 (my emphasis). According to Orgel, “the theater itself became an entity; the stage was not the setting for a drama, but was itself the action. And its transformations were those of the human mind, the imagination expressing itself through perspective, mechanics, the imitation of nature, creating a model of the universe and bringing it under rational control.” Orgel, 36. According to Roy Strong, “The Renaissance court fête in its fullness of artistic creation was a ritual in which society affirmed its wisdom and asserted its control over the world and its destiny.” Strong, 76. Place was determined in relation to the physical position and ideological bearings of those in power. By riding into scene on chariots (Campbell, 171) or other three-dimensional mechanical conveyances such as clouds or sea shells (Campbell, 166), the court (and royal) performers became moving parts of the scenery, integrated in the world of the spectacle. These mechanisms supported a cast of courtiers descending from the heavens in cloud machines, providing a divine/royal conclusion to the entertainments, and integrating the real people in their imagined, illusionary settings. Strong, *Splendor at Court*, 219-223.

<sup>22</sup> Strong, *Splendor at Court*, 208.



discoverers of new lands,<sup>23</sup> and the places of the New World painted in panoramic and prospective landscapes caused place became a key player:

...the scenery became to a certain extent the setting for the action, and there was evident a more pronounced effort to reproduce the New World scenes with fidelity. Thus the first entry is distinguished by a scene in which 'a Harbour is discern'd, (which was first discover'd by Sir Francis Drake...) where two Ships are Moor'd...The narrowness of the entrance to the Harbour may be observ'd, with Rocks on either side, and out at Sea a Ship towing a Prize...[also] a Wood, differing from those of European Climats, by representing of Coco-Trees, Pines, and Palmitos. And on the Boughs of other Trees are seen Munkies, Apes, and Parrots.'<sup>24</sup>

This historical description is intriguing because it shows how the scenery allowed the audience to see new places which the majority would never visit, taking them somewhere they had only heard mentioned. Clearly scenery with new stage technologies at work has been used to introduce audiences to places they've never been, just as today we are using digital technologies on stage (like animation) to visualize new fictional landscapes and to conceptualize new places created out of information (like the Internet).

### **Place as Entertainment in the Early Industrial Age**

Renaissance enthusiasm for spectacles of place carried into the spectacular settings of industrial age entertainments, including theatre (melodrama) and other popular attractions. The popularity of landscape and the emerging of photography technology were echoed in the public's desire for visual excitement and novelty in reproducing or

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<sup>23</sup> In *Il Giudizio di Paride*, "The ship of Amerigo Vespucci (1458-1512) approaches full sail. The navigator stands in Florentine garb at the prow, an astrolabe in his right hand." Arthur R. Blumenthal, *Giulio Parigi's Stage Designs: Florence and the Early Baroque Spectacle* (New York and London: Garland Publishing, Inc., 1986), 138.

<sup>24</sup> Lily B. Campbell, *Scenes and Machines on the English Stage During the Renaissance: A Classical Revival* (New York: Barnes and Noble, 1923, reprinted in 1970), 228.

creating places on stage and public spectacles of staged place like Panoramas. (See Appendix E: Panoramas and Other Painted Places.)

From the tradition of landscape painting and prospective illusion came such canvas vantage points as Dioramas, while in many cases projection or specialized lighting added the effect of atmosphere such as Philippe Jacques de Louthembourg's Eidophusikon, which also had mechanical moving parts to create the effect of real places. (See Appendix D: Historical Background for Digital Illusionary Place)

It was de Louthembourg's skill at creating realistic depictions of places alive and affected by weather and time which prompted famed actor/director David Garrick to employ de Louthembourg to build theatrical sets. Audiences came to theatre to see this new level of spectacle of place. "The public was now coming to some plays as much for the scenery as for the actors...settings whose fidelity to nature was heightened by imitations of changing light."<sup>25</sup> These new arts (and techniques) for creating the illusion of place again regained the stage.

## **Melodrama Spectacle**

The interplay of new technologies lead to the creation of new scenic effects for portraying place on stage, and Melodrama featured spectacular settings depicting varied places in the natural world. The theatre of the day was filled with the spectacle of illusionary place on stage.<sup>26</sup> Often a tremendous variety of the locales occurred in a

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<sup>25</sup> Richard D. Altick, *Shows of London* (Cambridge and London: The Belknap Press of Harvard University Press, 1978), 120.

<sup>26</sup> "...the Argand lamp (1780s); gas (from the 1820s) and control plate; limelight (1837) and electric arc (1848); and finally the incandescent lamp (1880s). The capacity to light is also the ability to create contrasts... for supernatural events, night scenes, storm scenes, forests, gorges, eruptions, explosions, shipwrecks, dream visions, all made a profound contribution to the capacity for visual contrast and for creating an 'effect.' Indeed, early on, the whole art of melodrama, and under its influence drama in

single theatre building each season.<sup>27</sup> Melodramas often took audiences beyond familiar streets into foreign and exotic locations (from the wild vistas of the west to the pyramids of Egypt), or into the heart of peril among the natural elements. From floods and drowning at sea to fires and avalanches, many melodramas and 19<sup>th</sup> century performances featured scenes of landscapes in flux, and scenic movement on a grand scale was the order of the day. Motion was realized in the rocking of capsizing boats, chariot races with live horses running on treadmills in front of unwinding spools of painted scenes, even in the shifting landscapes of a seemingly alive volcano.<sup>28</sup>

The particularly notable examples of the spectacle of animated place include Willam Brady's production of *Uncle Tom's Cabin*<sup>29</sup> with moss covered trees, and live

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general, was conceived as the art of 'effect'." Martin Meisel, "Scattered Chiaroscuro: Melodrama as a Matter of Seeing," in *Melodrama: Stage Picture Screen*, edited by Jacky Bratton, Jim Cook, and Christine Gledhill, 65-81 (London: British Film Institute Publishing, 1994), 66. "In such plays of pageantry and scenic splendour at Drury Lane acting as an art plays a subordinate part." Article by the drama critic in *Illustrated London News*, (29 September, 1888), in *English Melodrama* by Michael R. Booth (London: Herbert Jenkins, Ltd., 1965), 173.

<sup>27</sup> "During a few months of its 1800 season...the theater in Boston showed its patrons: 'the storming of the citadel. . . , and the destruction of the Persian fleet'; 'an explosion of a volcano'; 'Rolla tearing the tree from the supporting rock as the Spaniards crossed, to dash them into the cataract'; and 'the ancient broadsword combat, Oscar's leap from the tower 18 feet high, the death of Carroll on the bridge, the conflagration of the whole camp...' Critic after critic complained that legitimate drama was dying because of the success and fascination of beautiful scenery, striking effect, and spectacular pageantry." David Grimsted, *Melodrama Unveiled: American Theater and Culture 1800-1850* (Chicago: The University of Chicago Press, 1968), 78.

<sup>28</sup> Many of these spectacular entertainments might be seen as the direct progenitors of special effects shows staged today at theme parks like Universal Studios which feature fire (*Backdraft*) and floods. (especially *The Last Days of Pompeii*, This show featured the eruption of mount Vesuvius which was staged outdoors at Coney Island and other coastal sites on a large scale with 300 extras running amid false buildings charged with pyrotechnics. "The failure of Vesuvius to erupt on cue, however, totally ruined a lavish production of *The Last Days of Pompeii*... Such bewitching optical illusion 'made critics doubt even of our own censorial judgment and taste which, heaven forfend, should ever be proved to err or be warped by mere tinsel and glitter.'" Article in *American Athenaeum*, 1 (October 6, 1825): 231, in Grimsted, *Melodrama Unveiled*, 82) Beyond simply demonstrating a human desire to recreate natural disaster at a safe distance, these types of spectacles of place (in both time periods) create a sense of theatrical place which is alive with movement, as we perceive in the real world.

<sup>29</sup> The 1901 production of *Uncle Tom's Cabin* also used horses and dogs. Brockett and Hildy, *History of the Theatre*, Ninth Edition, 344.

horses, and Reinhardt's and Tree's depictions of *A Midsummer Night's Dream*, each with real trees, flowers, and grass,<sup>30</sup> and Herbert Beerbohm's use of live rabbits. Spectacles seen on the melodramatic stage also included David Belasco's recreation of the snow storm in *Girl of The Golden West*,<sup>31</sup> racetracks simulated on stage with conveyer belts on which horses could run,<sup>32</sup> and even the creation of real waterfalls and mountainous peaks in *Timour the Tartar*.<sup>33</sup>

It is this desire to create and to see a sense of movement and reality in place is what eventually lead to rise of cinema, which more easily creates variety in visual spectacle of place than the stage. Film scholar, Rohan McWilliam noted the transition

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<sup>30</sup> In Reinhardt's production of *A Midsummer Night's Dream* in 1905, there were "Veritable trees, not painted, but plastic ones, were placed on the stage, and the space below was covered, not with a painted ground-cloth, but with what seemed to be palpable grass, in which the feet sunk among the flowers; while here and there were seen bushes and little beeches growing between the trees; and in the midst of all a little lake mirrored between two hills." W. R. Fuerst and S. J. Hume, *Twentieth-Century Stage Decoration* (New York, 1929 and 1967) Vol. I, pp. 16-17, quoted in Edward Braun, *The Director and the Stage*, (London: Methuen Drama, 1982), 99.

<sup>31</sup> "Considered technically, Belasco's production of *The Girl of the Golden West* was a genuine masterpiece of stagecraft, and it is specially memorable for the perfect example it exhibited of the right use of 'realism' in the Theatre,—the use, in this instance, of an artfully created and perfect semblance of Nature in one of her wildest, most terrible moods as a background,—always felt, yet never obtruded,—for dramatic action the effect of which it steadily augmented and enforced. Nothing of the kind which I have ever seen in the Theatre has fully equalled in verisimilitude the blizzard on Cloudy Mountain as depicted by Belasco..." William Winter, *The Life of David Belasco, Vol. II* (Freeport, New York: Books for Libraries Press, 1918, reprinted 1970), 205.

<sup>32</sup> Rohan McWilliam, "The Licensed Stare: Melodrama and the Culture of the Spectacle," *Nineteenth Century Studies* 13 (1999), 169.

<sup>33</sup> "Elaborate machinery was devised to allow ships to move, fully rigged, on stage in 'accordance with the action of the sea,' and to 'tack sails' and move in another direction. Trap doors and pulley systems were used in the frequent allegorical or patriotic interludes, as well as in more conventional dramas. Crowd and battle scenes were elaborately staged; New York's Bowery Theatre had a special door to the stage installed 'to admit cavalry, infantry and artillery.' Processions of mechanical figures wended their way down mountains. The box set was developed, as were even more complex structures that let the audience see into several rooms in a building at once. Miles of painted canvas on rollers gave a type of scenic motion picture to some dramas." Grimsted, *Melodrama Unveiled*, 80.

from the dominance theatrical to cinematic places as the dominant forms of public entertainment.<sup>34</sup>

### **Projectionist Scenery**

From the 17<sup>th</sup> century through the 19<sup>th</sup> century in Europe, the Magic Lanterns developed as projection devices and became quite popular, even leading to the collection of glass slides of different locations.<sup>35</sup> (See Appendix D: Historical Background for Digital Illusionary Place) In addition to showing places on their slides, Magic Lanterns lead to a sort of portability of the spectacle of place. Projectionist traveled from door to door promising to show people the wonders of the world in their own homes.<sup>36</sup>

### **Futurist/Bauhaus Light Scenes**

In the early 20<sup>th</sup> century, both Futurists and Bauhaus members saw the

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<sup>34</sup> “The demand for realism on the stage that became a characteristic of the era from David Garrick onwards and made cinema necessary. Melodramas in particular offered the illusion of reality and the production of thrills through realism in scenery and in lighting. The Victorian stage was defined by the production of three-dimensional spectacles which grew more elaborate as the century went on ... there were inherent limits on the spectacle that the stage could provide...Ultimately, film was to prove a more cost effective medium for the presentation of spectacle...[theatre] required elaborate sets which were extremely expensive.” McWilliam, “The Licensed Stare,” 169-70.

<sup>35</sup> “The principle of the magic lantern remained the same, with a few small variations, from the seventeenth century until the end of the nineteenth. It was an optical box made of wood, sheet metal, copper, or cardboard; it was cubic, spherical, or cylindrical in shape; and in a darkened room it projected images painted on a glass slide onto a white screen (fabric, a whitewashed wall, even white leather, in the eighteenth century).” Mannoni, *The Great Art of Light and Shadow*, 33; “...particularly ‘pictures of all kinds for the Lanterne Magique.’ By this time the adjective magique had been definitively adopted in France, thanks to Antoine Furetière’s *Dictionnaire Universel* of 1690.” Mannoni, *The Great Art of Light and Shadow*, 67.

<sup>36</sup> “Traveling ‘Savoyard’ lanternist family, c.1800...wandered the streets...wailing for a window or door to open citizens to wave them in...” Mannoni, *The Great Art of Light and Shadow*, 78.

possibilities of electricity to create architectures of light on stage.<sup>37</sup> In his Futurist Scenography manifesto, Enrico Prampolini wrote, “The material means of expressing this illuminating stage consist in the use of electrochemical colors...”<sup>38</sup>

The projectionist play of lights on screens or the panels of programmed electric lights creating a “sensitive darkness”<sup>39</sup> were intended to create an “illuminating stage: a luminous expression that will irradiate the colors demanded by the theatrical action with all its emotional power.”<sup>40</sup> These electrically luminous scenes point toward the present use of digital technology in Digital Theatre to create animated sets of light (such as Mark Reaney’s VR sets which will be examined later in this chapter).<sup>41</sup> (See Appendix D: Historical Background for Digital Illusionary Place).

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<sup>37</sup> “...electromechanical architecture, powerfully vitalized by chromatic emanations from a luminous source, produced by electric reflectors with multicolored panes of glass, arranged, coordinated analogically with the psyche of each scenic action.” Michael Kirby, with some translations by Victoria Nes Kirby, *Futurist Performance* (New York: PAJ Publications, 1971), 205.

<sup>38</sup> Enrico Prampolini, “Futurist Scenography,” in *Futurist Performance*, by Michael Kirby, with some translations by Victoria Nes Kirby, 203-206 (New York: PAJ Publications, 1971), 206.

<sup>39</sup> “The next step was to multiply the sources of light, adding layers of coloured glass which were projected on the back of a transparent screen, producing kinetic, abstract designs. Sometimes the players followed intricate scores which indicated the light source and sequence of colours, rheostat settings, speed and direction of ‘dissolves’ and ‘fade-outs.’ These were ‘played’ on a specially constructed apparatus and accompanied by Hirschfeld-Mack’s piano playing... these light projection plays were publicly shown for the first time at the Bauhaus Week in 1923, and in subsequent tours to Vienna and Berlin.” RoseLee Goldberg, *Performance Art: From Futurism to the Present*, revised and enlarged edition (New York: Harry N. Abrams, Inc., Publishers, 1988), 106; Sensitive darkness: “The backcloth, which constitutes the scenery and which we shall call ‘sensitive darkness,’ is formed from myriads of electric lamps of every color and tonality.” Kirby, *Futurist Performance*, 223.

<sup>40</sup> Kirby, *Futurist Performance*, 118.

<sup>41</sup> “Prampolini’s vision of a new luminous stage filled with luminous forms that replace living actors is the epitome of the digital performance project. The concept of a luminous stage is of course inherent in the phosphor computer screen itself, the site of the genesis of creativity for digital performance works, and the ‘stage’ interface for online performance. It is also manifest in the bright projection screens surrounding actors and dancers in digital theatre settings; in immersive performance installations; and in the miniature dual screens of 3D head-mounted display systems used in Virtual Reality performances...Prampolini’s stage designs developed and implemented many of the ideas of Edward Gordon Craig and Adolphe Appia towards kinetic set design. These are now being re-conceptualised and synthetically fashioned within the computer, as seen in Mark Reaney’s kinetic three-dimensional VR scenography in productions such as *The Adding Machine* (1995) and *Machinal* (1999).” Steve Dixon,

## Piscator

Erwin Piscator was among the first theatre directors to utilize film to create scenic verity of place. Though originally implemented as a cost-effective and time saving device, Piscator's clever use of film on stage created a new type of visual setting and stage action.<sup>42</sup> "The set proper was a mere structure of steps and blocks behind which the screen showed floods, the sea, a naval battle and crowd scenes: 'a living wall,' Piscator called it, 'the theatre's fourth dimension. In this way the photographic image conducts the story, becomes its motive force, a piece of living scenery.'"<sup>43</sup> (See Appendix D: Historical Background for Digital Illusionary Place).

In his work the world of the play is the world of the recent past, and thus the moving, reality-based landscapes which are the background of real actions, play a vital role in creating reality-soaked cinematic place on stage. (See Appendix D: Historical Background for Digital Illusionary Place). In addition to projecting film footage, Piscator was interested in integrating motion on a grand scale through the use of mechanical set devices. His use of technology (similar to the chariot devices and other *Italianate* scenery used to integrate human elements and visual art discussed earlier) also extended to three-dimensional mobile settings including a treadmill, a giant mobile turntable, and skeletal settings.<sup>44</sup> Piscator also implemented treadmills to achieve the desired effect of

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"Futurism E-Visited," *Body Space and Technology* 3, no. 2 (2003): 11. <http://people.brunel.ac.uk/bst/vol0302/stevedixon.html>.

<sup>42</sup> The German Communist Party (KPD) commissioned a "Rend Review" in which Piscator first used film to impart information, partially as a shortcut to produce the stage work without a lengthy script-writing process for the short deadline before the party gathering.

<sup>43</sup> John Willett, *The Theatre of Erwin Piscator*, (New York: Holmes & Meier Publishers, Inc., 1979), 60.

<sup>44</sup> Gassner, *The Theatre in our Times*, 337; See Willett, *The Theatre of Erwin Piscator*, 88.

motion in *Good Soldier Schweik*. The treadmill, in combination with the moving background of projected maps and cartoon characters by George Grosz, expressed the futility of human effort and the corrupt system of the military. Schweik was the only constant live actor among the changing projected set. The combination of physical mobility (from the treadmill machines) and visual versatility<sup>45</sup> (provided by the projected animations) lead to a sense of flexibility in staging “a highly mobile show.”<sup>46</sup> This is similar to the sense of mobility achieved in 3D animated settings created by Mark Reaney.

### **Svoboda**

Like Piscator, Josef Svoboda’s *Laterna Magica* hybrid cinematic place and “live” performance created multiple points of interest and action. The focus was purposely multiple, and the stage-picture was split between many elements.<sup>47</sup> Beyond being a visual collage, the stage becomes a place for scenic movement.

Svoboda’s visual technique was to create a sense of hybrid cinematic place which incorporates scenic movement and relates directly to stage action. (See Appendix B: Piscator and Svoboda.) He describes the technique of moving the camera with the “live” actor/character’s point of view and revealing small parts of the environment through the

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<sup>45</sup> “...comic, economic style: cut-out marionettes, projected backgrounds, sequences of cartoon film.” Willett, *The Theatre of Erwin Piscator*, 91.

<sup>46</sup> Willett, *The Theatre of Erwin Piscator*, 91. “Using two treadmills, or endless belts, which would roll Schweik on or off allowed him to march blandly into the bloody war without moving from the spot. The scenes in turn could pass across the stage as cut out objects and people, or be seen moving past on the projection screen; there was no set in usual sense.” Willett, *The Theatre of Erwin Piscator*, 91.

<sup>47</sup> Josef Svoboda, *The Secret of Theatrical Space*, edited and translated by J.M. Burian (New York: Applause Theatre Books, 1993), 56.



camera: “But then a traveling screen picks up different parts of the [scene] as if you were looking through a window at part of your environment.”<sup>48</sup> What Svoboda referred to as the “confrontation of selected realities: actions, objects, people” allowed these visual elements to be more theatrical than painted sets and usual stage constructions.<sup>49</sup>

The stage in motion was composed of projections which were integrated into Svoboda’s stage performances such as *Their Day*, and *The Last Ones*. *Their Day* was the first use of the Lanterna Magica technology from the Brussels Expo 1959. In *Their Day*, personal response or experience of place is highlighted in the visual retelling of a car accident from the victim’s point of view.<sup>50</sup> The work of Svoboda, Piscator, and even the creators of painted and mechanical spectacles, had at their heart the same interest as those employing new technologies on stage today: to bring the spectacle of illusionary place to life.

### ***Imagined Place in a Virtual Age: Digital Scenography***

In 1855, the Examiner of Plays, William Bodam Donne wrote,

we are become, in all that regards the theatre, a civil, similar, and impassive generation. To touch our emotions, we need not the imaginatively true, but the physically real. The visions which our ancestors saw with the mind’s eye, must be embodied for us in palpable forms...all must be made palpable to sight, no less than to feeling; and this lack of imagination in the spectators affects equally both those who enact and those who construct the scene.<sup>51</sup>

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<sup>48</sup> Burian, *The Scenography of Josef Svoboda*, 94-95.

<sup>49</sup> Burian, *The Scenography of Josef Svoboda*, 95.

<sup>50</sup> See Svoboda, *The Secret of Theatrical Space*, 56.

<sup>51</sup> William Bodham Donne, *Essays on the Drama*, (Parker, 1858), 206, quoted in *Victorian Spectacular Theatre: 1850-1910*, by Michael R. Booth, (Boston: Routledge & Kegan Paul, 1981), 2.

There are parallels between Bodam's description of the audience of his day and our own. Their growing need for visual and almost physical or tactile ("palpable") materialization of actions on stage through effects, links the sensibilities of his generation's aesthetic hungers fed by the inventions of the industrial age, in the same way our media/tech-savvy society is now fixated on screen-delivered visuals and computer technology to deliver the effects and virtual experiences we crave.

Like the generations before us which discovered the technology of perspective illusion, and later the photograph (and film), we are influenced by the technology of our day. We are a highly visual generation and thus we are constantly interfacing with and craving new images and depictions of the world we inhabit. With the invention and wide distribution of computer technology our visual understanding of the places around us are shifting. Through television, movies, and computer animation, we have grown to expect new spectacles of place.<sup>52</sup> Digital scenographer Mark Reaney discusses evolving perceptual needs of today's audience just as Bodam Donne did over a hundred years ago.

In Reaney's words:

The current generation is bombarded with television, movies, games, and so on, and by just putting up the traditional box setting with painted muslin and having it sit there for two hours isn't really speaking to the audience... Instead, we need to use a language they understand, which is modern, digital, and loaded with information.<sup>53</sup>

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<sup>52</sup> It is valuable to identify our current visual trends and discuss the fictional places we are creating for entertainment and escape such as 3D animated worlds depicted in movies, cartoons, online, and especially in gaming.

<sup>53</sup> "Yet Reaney is quick to note that while DV and CGI can enhance theatrical performances, the productions must also retain the characteristics that make live performance special and distinctive." Karen Moltenbrey, "Setting the Stage Act II," *Computer Graphics World* 26, no. 12 (November, 2003): 39.

There is some evidence that this need to connect to current audiences is fulfilled through Virtual Scenography.<sup>54</sup>

Much of the experience of 3D animated sets is modeled on the experience of similarly animated video gaming environments. Video games give the user a unique experience of place and space, providing the user with interaction, power, flexibility of scale, motion, and visual delight (chroma). In the world of 3D animated games, players often interact with each other and the game or 3D landscape to create certain desired effects (opening doors, solving clues, etc. which trigger a shift in place or location). The sense of power of the individual in shaping or moving through their environment is a major part of the joy of the experience. The visual landscape, shaded and visually simulating three-dimensional surfaces is often populated by obstacles (targets to be destroyed) and rewards which gratify the user's sense of importance in this reactive world. A sense of fluidity is derived from the flexibility of scale and motion provided by the camera point of view from which the geometric planes are rendered, allowing the user to experience the mathematically achieved shapes as a visual surface and virtual place.<sup>55</sup>

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<sup>54</sup> The audience of Mark Reaney's production of *The Magic Flute* was very appreciative of the production's music and spectacle and I overheard many positive and even glowing comments on animated visuals. The students were very appreciative of the stimulating visual interpretation of the opera. Even a couple of older women (in their 70s) not of the digital gaming generation, commented as we were leaving, "all the moving sets were amazing, such a lot of work." This was an effective use of new media and technology to invigorate and interpret a time-honored piece. Nadja Masura, performance notes of *The Magic Flute*, by Wolfgang Amadeus Mozart, at the Crafton-Preyer Theatre, University of Kansas, 26 April, 2003, written notes. "Virtual Scenery. The media provide a backdrop depicting the environment within which the staged action takes place. This virtual scenery can either be static or animated. The projected island landscapes in *The Tempest* exemplify his use of media in performance." David Z. Saltz, "Live Media: Interactive Technology and Theatre," *Theatre Topics* 11, no. 2 (2001): 124.

<sup>55</sup> See Mark Reaney, "The Theatre of Virtual Reality: Designing Scenery in an Imaginary World," *TD&T* 29, no. 2 (Spring 1993): 30. The reward of the place is in the novelty of visually "moving" through an environment which may mirror laws of our own universe, but distorts and sometimes perverts (either through simplification of planes, colors, or actions) or delays or conversely expedites reactions and causes a distorted sense of time along with a sense of floating or semi-embodying the new place.

Each game (or animated project) is its own world, with its own set of rules and rewards, be they social interactions (communicative or violent) or purely visual and spatial.<sup>56</sup>

In his article “Computer Technology for Theatre: The Next Ten Years,” Patrick Finelli, summarizes some of the technology used to put virtual sets into action (although rear-screen projection can be used instead or in addition to Chroma key or blue screen techniques). He writes:

Currently, there are experiments in designing virtual sets in theatre departments at UCLA, Kansas, Georgia and other schools. These efforts often utilize techniques used in film and television - the ‘chroma key.’ Chroma key allows you to superimpose an actor over a background...shoot video of an actor against a blue or green screen and then place the actor on a virtual set...use software to replace the keyed background with your own 3D rendering. The result combines your live actor with a 3-D virtual scene. The stage actor is placed into an imaginary world displayed on a video screen...The greatest potential comes with combining live actors with 3-D shapes...[while] still in the experimental stage for theatre...their potential holds much promise for directors and scenographers of the future.<sup>57</sup>

Digital Theatre productions incorporate projections of 3D animated worlds, and their aesthetic, into live stage production. Perhaps the most stunning example of this type of integration of live actors and virtual places can be seen in the work of Mark Reaney and the University of Kansas’ The Institute for the Exploration of Virtual Realities. In a

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<sup>56</sup> Perhaps it is this individualization, in which we each are the monarch of our own dreamscape, which is both the pull and major characteristic of 3D worlds and our new visual aesthetic of place. By now, many of us have seen modern cautionary tales such as the movies *Lawn Mower Man* and *Tron*, or read such books as *Neuromancer*, warning against supplanting real place with illusionary place through excessive computer interfacing or gaming; substituting the physical world inhabited by bodies with a virtual landscape inhabited by impulses.

<sup>57</sup> Patrick Finelli, “Computer Technology for Theatre: The Next Ten Years,” pre-publication draft, “Product Reviews: Ten Ways Technology Will Change in Theatre” (1998), 6. <http://www.connectedcourseware.com/ccweb/prodrevs/10ways.htm>.

series of productions (begun in 1995) including: *Tesla Electric* (1995), *The Adding Machine* (1995), *Wings* (1996), *Play* (1996), *Machinal* (1999), *A Midsummer Night's Dream* (2000), *Dinosaurus* (2001), and *The Magic Flute* (2003), Reaney has explored layering physical and animated elements.<sup>58</sup> While I refer to some of the elements of staging and animation in *A Midsummer Night's Dream* (staged at the Lumley Studio Theatre at the University of Kent at Canterbury, as a collaboration between “i.e.VR” and the Kent Interactive Digital Design Studio), I will primarily focus on his production of *The Magic Flute* an excellent example of Digital Theatre.

While in many ways Virtual Reality sets resemble the filmic projections of the past, or even the thrill of shifting places in Italianate scenery, what is truly remarkable about this new form is its immediate responsiveness not only to cues, but to actors, and to the audience as well. As we saw earlier in Reaney's dragon (which bows only if the audience claps) and other digital puppets, digital media sets are alive with moving elements like digital characters. It is the incredible real-time responsiveness which builds a sense of relationship between the actor/characters and the illusionary place's ability to react (through weather, light, shifting place, etc.) to them in real-time. When watching these seemingly independently moving elements, there is an unmatched sense of grace and wonder, a sense that something unexpected can and will happen as the set responds in a moment to its human environment.

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<sup>58</sup> See Adam Watkins, with Kristen Watkins, “Virtual Limelight,” *Computer Graphics World* (March 2000): 40. Felicia Hardison Londré, “Virtually Zero,” *American Theatre* (July/August 1995): 66. David G. Fraser, “*Tesla Electric*,” [www.ukans.edu/~mreaney/tesla/](http://www.ukans.edu/~mreaney/tesla/).

## ***The Magic Flute—Virtually Shifting Scenery***

In the University of Kansas' production of *The Magic Flute*, place was created by the visual magic digital technology.<sup>59</sup> In this production, illusionary place is truly protean as representations of place, known for its relative stability, became liquid. In it, landscapes, costumes, and even characters appeared where before there was nothing, as if by a trick of magic, and one landscape melts into another. In fact, these projected places seem alive with movement. In designer/technologist Mark Reaney's words:

The world of Mozart's *Magic Flute* is one of fantasy and mystery. It is almost its own universe, and our job is to stage Mozart's imaginative world in a fluid and seamless fashion. The VR technology will allow the stage pictures to move almost as fast as the music.<sup>60</sup>



*Fig. 46: Mark Reaney, designer/technologist for The Magic Flute. Photo by author.*

*The Magic Flute* is an excellent example of Digital Theatre because it allows “live” actors to traverse digital landscapes that alter in real-time to respond to their movements and in relation to the character's moods and the dramatic and musical

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<sup>59</sup> Karen Moltenbrey, “Digital Video...Part I of a two-part series,” *Computer Graphics World* 26, no. 11 (December, 2003): 31.

<sup>60</sup> Mark Reaney, “*The Magic Flute*,” <http://www.ukans.edu/~mreaney/flute/> (accessed April 2003).

content.<sup>61</sup> The flexibility of the media landscape allows for a sense of interplay between human and media elements, and movement within the digital landscape all of which allow the illusionary place to take on a sense of character itself.

The entire world of the play, or illusionary place, was created through the projected landscapes. The set was bare to the back walls of the theatre, with the exception of screens and minor scaffolding, and computer/projection equipment.<sup>62</sup> The simplicity and bareness of the stage paid homage to the theatre itself as the place of imagination. The Theatre as a computer or Virtual Reality environment of the mind is made apparent. In this way, the physical place of the theatre was dramatically present along with projected illusionary place. One was aware of a sense of being inside a magic box where the illusion of shifting imaginary places was conjured from thin air. Having seen the production twice, I was captivated by the spectacle and simultaneously aware of being in a theatre, a place where the imagination, performance, and spectacle created a lively, shifting world.

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<sup>61</sup> Matthew Lombard, e-mail to Presence-I listserv, November 13, 2004, Subject: "Virtual reality lends magic to The Magic Flute," <https://listserv.temple.edu/cgi-bin/wa?A2=ind0311b&L=presence-l&P=498>.

<sup>62</sup> The proscenium theatre was bare to the back wall and the audience could see the black painted brick walls on all three sides. There were computer stations set up both in front of the stage in the orchestra pit as well as at the back of the stage with multiple monitors and Mac computers as well as projectors in plain sight of the audience. The stage was only dressed with two long strips of cloth used as side projection panels for slide and light material upstage stage right and left, a circular projection screen hung topmost and lowered from the fly loft and two mismatched rectangular screens which flanked it on either side (center stage). Additional rolling and carried screens were brought on stage by stage hands or extras in costume several times during the performance.



*Fig. 47: The bare stage with projections in The Magic Flute. Image copyright Steven Hudson-Mairet, used with permission*

In the Kansas Virtual Theatre production of *The Magic Flute*, several aspects of animated gaming environments informed the look and feel of the scenic experience such as interaction between set and characters, questing, shifting locations, flexibility of location (scale and motion), the sense of the user following along with the camera, and of course the highly saturated landscape of 3D modeled surfaces. The most memorable moments of the production were those in which the animated sets gave the illusion of a sensitive, shifting place which was alive with movement. Although the effects were beautiful and varied, they can be broken down to seven repeated types of animated movement including: independently moving details, video inserts, instantaneous scene shifts, rotation animated objects creating multiple views of the set, emotive scenery, camera point of view (or traveling), and interactive elements.

In the animated scenery, elements of the landscape moved independently. Details such as animals, people and weather made the place seem to come to life. In the first act, the illusion of depth of the forest was completed with seemingly independent animated elements. The screens aligned and projections created the setting of a lush forest; an emerald glade with ferns and the thick trunks of evergreens and tall shade trees. As one was admiring the airy shafts of light, depth of shadows, subtle structure of ferns, and



individual tree limbs, a flutter of movement startled the eye. Red and orange computer-generated birds flew in through the scene and repeated their brilliant flight patterns between trees. It was as though the set itself were alive, or at least contained living elements. At this point there was an observable audience response of excitement (perhaps similar to earlier Melodrama audiences delight at finding animals integrated into a stage setting like the rabbits in Beerbohm's *A Midsummer Night's Dream*<sup>63</sup>). Later, as Tamino and Pamina fled across a scaffold bridge, a chamber of Sorastro's castle was projected on a screen behind them. The scene showed an endless Escher staircase where a small animated monk walked up and down, defying gravity and logic. Finally, atmospheric effects such as dawn and snowfall created a sense of a living landscape. Through these effects, the perceptual line between real and imaginary was being blurred through the implied reality of independently moving details.



*Figs. 48 and 49: Digitally created snowfall, and the Escher-like castle spins. Image copyright Steven Hudson-Mairet, used with permission*

Another way independently moving elements are inserted into the scenery is through the integration of real-time video. This technique blends the photo-realistic

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<sup>63</sup> Brockett and Hildy, *History of the Theatre*, Ninth Edition, 399.

moving images of the actors with the animated scenery much like Italianate scenery tried to integrate court actors with the fictional world of the set in a visually similar way (descending from the heavens in a cloud machine). Video inserts into the projected landscape are featured in two duets or initial love scenes between the two couples. In one scene, while Papegeno catches birds, a woman's visage appears to him. Papagena's head smiles and dances, and floats back and forth across the screen. Her image swoops through the air like a bird, in flirtatious loops.<sup>64</sup> Later Pamina appears to Tamino projected against the animated backdrop, her face framed by a gilded oval picture frame. As Prince Tamino looks lovingly at the portrait of Princess and sings, the young lady reacts to his overtures with gentle looks; she is interacting with him. It becomes apparent to the audience that the video of the actress inserted into the frame is not pre-recorded video but a real-time video feed shot backstage. As the women float in from above, the world of real (the body of the actress) and the illusionary (projected set) share close visual proximity.

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<sup>64</sup> Nadja Masura, performance notes of *The Magic Flute*, by Wolfgang Amadeus Mozart, at the Crafton-Preyer Theatre, University of Kansas, 26 April, 2003, written notes.



Fig 50: *Pamina appearing to Tamino*. Image copyright Steven Hudson-Mairet, used with permission

Perhaps the most easily recognizable aspect of movement in the production is quick, almost instantaneous shifts of scene or location made possible by the digital nature of the sets. Here is where digital technology really shines, because the illusionary places are made of pixels, they dissipate into nothingness and shift seamlessly between varied locations in the blink of an eye. Digital images and projected scenes can be erased (blacked out, transitioned, or replaced), more quickly than we can see them. This lends a definite air of magic to the world of the play.<sup>65</sup> The scene shifts almost instantaneously from the woods, to the castle, to a cave, to a bleak snowy mountain top. For added effect, the screens themselves were flown in and out to emphasize a gesture or draw attention to the mercurial nature of the projected imagery. With a gesture, they fly in or out for both

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<sup>65</sup> When the queen is wheeled off the forest returns and a floating log (flute) appears. In the scene a flute and a xylophone (glockenspiel) float and spin. Nadja Masura, performance notes of *The Magic Flute*, by Wolfgang Amadeus Mozart, at the Crafton-Preyer Theatre, University of Kansas, 26 April, 2003, written notes. This attempt at integrating 3D rendered versions of important properties was perhaps the least effective use of projection in the production. This may be due to my perception that it was not a well crafted flute, looking like a log with holes.

the powerful Queen of the Night and Sorastro.<sup>66</sup> The Queen of the Night enters parting the woods (both screen and projections) all at once.



*Fig. 51: The Queen of the Night entering all at once, screens fly up. Image copyright Steven Hudson-Mairet, used with permission*

These moments were impressive, for as I have alluded to through my descriptions, the set was a mixture of bare economical physical objects (benches, scaffolds, and screens) and the lush beauty and extravagant colors of the projection. There was little scenic spectacle or movement which was not in the animated projections. For example, the (Masonic-like) initiation trials of the Prince and Princess utilized the simple scaffolding as a bridge, and it is through the animated projections behind them that they walk through fire, water, and other elements.

The indispensable presence of the digital media is made clear when it is removed. When the Prince's quest leads him through a tunnel to a digital landscape (blackness with

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<sup>66</sup> Some of the least effective background effects were the hooded heads with wood grain faces blinking in unison which represented the Masonic brotherhood at Tamino and Papegen's trial, and the creation of multiple, seemingly 2D purple/black swirled angular cutout figures which represented the Queen of The Night's Army. The evil army of the Queen of the Night were cut-outs, a motion of abstract shapes; soldiers' shadows were purple shapes two rows deep, spears forward. Likewise when the evil slave appeared, his scenery was an ugly olive/black spiky fractal pattern which spun one inside another, which I found dizzying.

green code cycling through and around pillars like water around a fountain with embedded objects), the hero's actions resolve the situation and dissolve the scene.<sup>67</sup> As I remarked in my notes: "The setting becomes nothing, simplicity, the riddle is solved. The actor is alone with the white screens without projections. The void is very effective, the place has become nothingness. The use of the absence of projection creates a sense of loneliness, emptiness of a blank mindscape and illustrates a vague reality of being neither here nor there."<sup>68</sup> The digital media has clearly defined the limits of the imaginary place through its absence. Without the digital media, the stage is bare and the illusionary place becomes truly blank and placeless. By drawing attention to its absence, when resumed in the next scene, the media's presence seems intensified.

By using rotating digital objects, rather than physical sets, multiple views were created for scenes without the use of hydraulics or other mechanical machinery. The light-based architectural shapes of the castle and other elements spun and rotated more smoothly and quickly than would be possible with sets constructed out of physical materials. By shooting one rotating virtual object (such as the castle) from one camera view, the animation has the appearance of multiple gracefully shifting views. The castle is first revealed as having a bleak landscape of barren flooded trees which appear behind its arches.<sup>69</sup> The scene composition changes as the Escher cube of the castle object continues to rotate, allowing the viewer a subtly ever-shifting view of the same modeled

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<sup>67</sup> There were religious icons floating by on the grid with zeros and ones on them; suggesting perhaps digital garbage.

<sup>68</sup> Nadja Masura, written notes from observing *The Magic Flute* by Wolfgang Amadeus Mozart, at the Crafton-Preyer Theatre, University of Kansas, 26 April, 2003.

<sup>69</sup> In the background, the trees and water landscape is panning to the right, and the building was shifting horizontally with a spin to other sections.

object offering different layouts or views of the architecture of arches, columns, and other structural shapes.<sup>70</sup> The animated scene is shifting beyond the ability of a traditional revolve or hydraulic systems which are anchored on at least one point or axis of spin. This scene creates movement and an interesting sense of time and a suspension of the laws of gravity.

The difference in movement between animated objects (such as the monk moving on the shifting staircases) is best exemplified in the relationship between the castle and the moon. After Tamina reveals to her father (Sorastro) that the Queen of the Night's has ordered her to stab him, father and daughter reconcile. Their reconciliation takes place in a courtyard of the spinning castle. As he sings her a lullaby, she nods off and a large moon revolves slowly around the castle. It is full and hypnotic. It is almost as if the father has pulled down the moon for his daughter, thus visually realizing a strong metaphoric impossibility through digital means. It was a scene of such poetic visual beauty that I was struck by a feeling of pleasure and a heightened awareness that this "live" and Digital Theatre moment was fleeting, as I felt all too aware of the intense labor that went into making such a show, and that it would soon be over.<sup>71</sup> This moment, was an epitome of what Digital Theatre can invoke, the powerful realization of both the living presence of the actors and the extraordinary beauty and imagination realized by digital animation joined to create something stirring and unique.

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<sup>70</sup> The effect is achieved by creating a complex modeled object which is rendered in space with a close-up camera point of view which does not allow for a view of the whole shape, but focuses instead on the views created as one looks out to the images mapped in the "background" "outside" the object.

<sup>71</sup> Because this was a live piece of theatre, a show that would play some dozen times as apposed to a game or CD which could be replayed at will, it seemed that much more of a valuable experience.



Figs. 52 and 53: *The moon revolves slowly around the castle. Images copyright Steven Hudson-Mairet, used with permission*

Given this last description, it should not be surprising that the next major aspects of the production's use of scenic movement were scene changes which seemed to have an emotional relationship to the characters, or perhaps to indicate character itself. Emotive scenery is where illusionary place begins to have a reflective presence, or a connection with the emotional relationship between the characters and the landscape.<sup>72</sup> When Pamino attempts suicide for the loss of Pamina, she stops him. In his joy he sings and summer comes, the barren tree and climate transform before our eyes into a sunny orchard heavy with fruit. Lush colors of gold sun and green trees and grass and orange fruits, make it a moving vernal paradise, an animation of their potential domestic bliss. Earlier when Papegeno and Pamina sing, the flood water around the castle dissolves and the landscape becomes green and blue. There is a hypnotic movement of the landscape as they sing. This gives a sense of the connection between the emotional relationship between the characters and the landscape. The landscape seems to shake off the evil spell

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<sup>72</sup> The closest to a category for emotive scenery as achieved here, given by Dr. Saltz is Subjective Perspective *Subjective Perspective*. The media depict the thoughts, fantasies, dreams, or sensations of some or all of the characters onstage. The image of Claude falling into the vortex clearly exemplified this use of media, as did an extended nightmare sequence in which Claude imagined a series of pop culture icons." Saltz, "Live Media: Interactive Technology and Theatre," 124-125.

in rolling waves as they exhale their melodious song. It is almost as if the landscape is alive.



*Fig. 54: Papegeno and Pamina sing the landscape beautiful. Image copyright Steven Hudson-Mairet, used with permission*

Animating the movement of the virtual camera's point of view within the 3D landscape gives the viewer the sense of moving (or traveling) through the illusionary place. The cinematic equivalent is the use of cranes or dollies to move the movie camera to create fly-ins and zoom outs. In this production, the camera flew over the Escher castle and its guards. It also traveled with the hero, Pamino, through a tunnel. By moving a virtual camera through a pipe-like object, the rendered scene allows the viewer to see inside the tunnel of the cave, thus making a geometric object with textured walls into a setting.<sup>73</sup> The effect of motion is created by the camera, not the tube shape through which the camera is moving. The actor mimes his gait and the audience has a sense of traveling along with the actor, much like Piscator's actor on the treadmill. The movement is compelling and one focuses in the direction of implied movement, however

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<sup>73</sup> The surface has the appearance of being a brownish viscous lava tube laced with quartz-like fatty veins. This is followed by steps going upstairs with bright (and smudged) hieroglyphs on the walls.



the actor does not move straight ahead, but back and forth. This is confusing because he is moving counter to the progression of the setting.

Nonetheless, there is a definite sense of traveling with the actor, or perhaps more with the scenery as though we in the audience are game users. Through the implied motion shown on the screen, the audience as a whole is on a journey, somewhat like a video questing game where the player moves forward toward a goal. As an audience, we enter a hall of beautiful art work.<sup>74</sup> As the riddle is solved, the scenery dissolves.

The final use of digital scenery to create illusionary places which mimic lifelike settings through movement is perhaps beyond lifelike. The use of interactive media or settings which respond to the actor like an instrument is for the most part beyond our current expectations of place.<sup>75</sup> In the production, one scene features glowing fireflies lighting up a tree in the pre-dawn light.<sup>76</sup> As Papegeno plays a glockenspiel, more fireflies appear. Papagena appears at the side of the stage and more fireflies join the dance of lights: purple, yellow, blue, bursts of light. They seem to respond to his music. While in this production, the glockenspiel did not activate the fireflies, a more responsive effect could have been achieved if the notes triggered the animation without a human go-between directly cuing the animation. Perhaps the finest example of the scenery responding directly to human interaction is the *synthesia* soundscapes as mentioned in

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<sup>74</sup> We see Renaissance and earlier paintings of monks, nuns, saints, the Virgin Mary with text on what appears to be a glass wall in front of the images creating a display.

<sup>75</sup> “Instrumental Media. Interactive technology is used to create new kinds of instruments. For example, one could cover the stage floor with pressure-sensitive tiles and program each tile to produce a different sound or different image when a performer steps on it. This use of media is similar to *synesthesia* in that it can track the performer’s actions very closely. However, in semiotic terms, *synesthesia* is iconic, while a virtual instrument is symbolic: the relationship between action and effect can be entirely arbitrary, as long as it is predictable.” Saltz, “Live Media: Interactive Technology and Theatre,” 126.

<sup>76</sup> There was a tree with lights; fireflies in pink, blue, yellow. They light up a bush, illuminating leaves one by one when they land on it in the pre-dawn light.

earlier in the chapter on bodies, in which the voices of the singers create the visual landscape.

Through independently moving details (such as birds and other lifelike independent moving elements), video inserts, instantaneous scene shifts, multiple views of the set, emotive scenery, camera point of view (or traveling), and interactive elements, Reaney created a set which epitomized a new sense of illusionary place.<sup>77</sup> The animation's flexibility enlivened the theatre as a place of imagination for current audiences. It showed us things we could not have seen or experienced before, and demonstrated new visions of virtual place as only computer technology could.<sup>78</sup> The scene not only described an imagined place in an almost cinematic way while using live actors, but in a sense, the animated scenery allowed the set to take on the mood of its characters and gain a sense of a personality of its own. In Reaney's words:

Rather than depicting static, realistic environments, most of our explorations reflected an expressionistic approach. Scenery was active and reflected the mental-inner workings of the play's characters. Virtual scenic elements have the unique ability to move and transform as the dramatic action of the play progresses. If the scenery has the ability to move interactively during the play, and if it is used to convey the same emotions and thoughts as the actor driven characters, then it could be said to be a character itself.<sup>79</sup>

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<sup>77</sup> Charla Jenkins, "KU Theatre gives Mozart masterpiece a new look with virtual reality technology," Press Release, April 17, 2003, <http://www.news.ku.edu/2003/03N/AprilNews/April17/flute.html>.

<sup>78</sup> Similarly stunning effects were achieved in the University of Georgia's *Tempest 2000* created and directed by David Saltz. In this production the digitally animated landscape also shifted from place to place and suggested movement within scenes as it recreated the ocean's surf and raging sea, jungle foliage, and featured inset video.

<sup>79</sup> Mark Reaney, "Virtual Characters in Theatre Production: Actors and Avatars," speech delivered at VRIC, Virtual Reality International Conference, Laval Virtual (16-18 May, 2001), <http://www.ukans.edu/~mreaney/reaney/dinos/>.

I believe the magnetic pull of the set did create a sense of a living, evolving character. The set's ability to pull down the moon, rotate the set to any vantage point, change the weather, to give the audience multiple shifting perspectives and the sense of travel and motion, to shift instantaneously from one place to another, effect the weather from floods to snow to luminous sunshine in relation to moods, all these things cumulatively gave the animated scenery a sense of motion mirroring or exceeding real place. The reactive animated landscape begins to have a sense of personality, of life. In a sense, place begins to take on character, and thus the set of illusionary place becomes a body.

## ***Cyber-space and Placelessness Visualized***

### ***A Midsummer Night's Dream***

Perhaps one of the clearest examples of digitally conceived place or placelessness can be seen in Reaney's visualization of cyberspace in his production of *A Midsummer Night's Dream*, produced in England in a partnership with the University of Nottingham Trent. Like *The Magic Flute*, this production used digital technology, not only as a scenic tool, but as a metaphor for the world of the play created in the production.<sup>80</sup> By setting the classic in a modern computer-savvy world and within the computer itself, the play was produced in a way which acknowledged the medium of production as an

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<sup>80</sup> Many settings came from the visual depictions of computer processing, networking and software ideas with which the audience was familiar. Instead of leaving the civic world of Athens for an enchanted wood, the characters left the corporate world (a 3D rendering of an airy yet metallic electronic ticker-tape lined central office with a circular desk, and double-helix like sculpture) for a changeable, seemingly interactive and shifting digital landscape. In addition to appealing to a computer savvy audience through the creation of "multi-layered, information rich, new-media" settings. Mark Reaney, "*A Midsummer Night's Dream*," <http://www.ku.edu/~mreaney/midsummer/> (accessed May, 2006).

essential part of the total Digital Theatre experience (as well as appeal to current audiences). By placing the world of the play within the “modern fantasy realm of computer games, cyberspace, and science fiction,” Reaney and his team were exploring the mysterious nature of computer ‘magic’ (the operations and programming unseen by the average user), and the idea of cyberspace as a place.<sup>81</sup> According to Reaney,

...it was our intention to draw attention to the manner in which people conceive of electronic communication and interaction mediums as a form of geography...By creating a computer-based world inhabited and controlled by fairies, we sought to humorously illustrate the understanding most people have of the mysterious mechanical processes inside the computers that they use every day.<sup>82</sup>

It is interesting to note that because of the protean nature of digital media, many of the more traditional theatre productions utilizing technology tie it to staging magic effects (this can be seen in Reaney’s *A Midsummer Night’s Dream* and *The Magic Flute*, Saltz’s *Tempest 2000*, and the Actors Theatre of Louisville, Kentucky’s *Macbeth*). This can be seen to correspond with the long theatrical tradition of spectacle representing the divine, supernatural, and magical through mechanical effects.

By creating visualizations of rooms he “gave physical form to cyberspaces.”<sup>83</sup> Through his 3D scenic design, Reaney was giving visual solidity to concepts shared by computer using audiences. He was giving a sense of solid or at least recognizable place to concepts, challenging author Una Chauduri’s idea that cyberspace is essentially the

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<sup>81</sup> Mark Reaney, “*A Midsummer Night’s Dream*,” <http://www.ku.edu/~mreaney/midsummer/> (accessed May, 2006).

<sup>82</sup> Reaney, “*A Midsummer Night’s Dream*.” (no pagination).

<sup>83</sup> Reaney, “*A Midsummer Night’s Dream*.” (no pagination).

epitome of placelessness, that ‘there is no there there.’<sup>84</sup> By making visible on stage, via projections, the places (‘rooms,’ ‘addresses,’ etc.) of cyberspace, Reaney was creating a theatrical cyber-place on stage. The imaginary or illusionary place created through projectionist spectacle, visually manifested our concepts of information as a real, chartable experience. The production’s setting gave visual expression to experiential notions of place which evolved from metaphors created by users and programmers to map out and explain our experiences of navigation within a digital landscape of computer usage.

The fourteen settings in what could be transitioned in an instant ranged from scenes set in a chess game between the two fairy monarchs, and a word processor bower with the text of the play forming branches of a tree.<sup>85</sup> The digital setting also included a maze as a visual depiction of searching the web (constructed of screen shots of web pages mapped to a 3D animated structure through which the camera roamed with floating credit cards and the ominous tracking stare of Oberon). Other digital places depicted were a painted forest representing a 2D painting or graphics program (like Adobe Photoshop or Corel Draw) “complete with wandering brushes and paint buckets,” a sewer of defunct games (such as Pac Man), and a game fighting arena for the lovers.<sup>86</sup> In addition to the purpose of visually showing familiar computer experiences, the set was able to recreate

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<sup>84</sup> See Fuchs and Chaudhuri, Introduction: “*Land/Scape/Theater and the New Spatial Paradigm*,” 1-7.

<sup>85</sup> “The play text wafting as the fronds of an enormous willow tree.” Reaney, “*A Midsummer Night’s Dream*.”

<sup>86</sup> Reaney, “*A Midsummer Night’s Dream*,” (no pagination); From my notes of watching the archival video, I also recall a *Matrix*-like shower of green data among other stunningly visual sets.

the sense of flexibility of computer applications and online experiences. He sought to demonstrate the medium as its message.

In Reaney's words, "Virtual scenic elements have the unique ability to move and transform as the dramatic action of the play progresses."<sup>87</sup> Reaney's goal was to show the transformative and interactive nature of the computer landscape, to create malleable places. Both of these productions (*The Magic Flute* and *A Midsummer Night's Dream*) are a continuation of Theatre's desire to create the spectacle of shifting illusionary places and visualize new places, the very same appeal of Italianate and Melodrama spectacle which captivated audiences of their times through their mechanical technologies.

### ***Alladeen***

On December 5, 2003, I saw perhaps one of the best examples of theatrical representation of placelessness depicted in the digitally built illusionary place in the production *Alladeen*.<sup>88</sup> *Alladeen* is a cross-media performance (including stage production, website and MTV Asia music video) was created in 2004 as a collaboration between two companies, the Builder's Association and Motiroti (one in New York and the other in Brittan).<sup>89</sup> *Alladeen* examined the cultural borrowing instigated by the

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<sup>87</sup> Reaney, "Virtual Characters in Theatre Production: Actors and Avatars," (no pagination).

<sup>88</sup> The landmark piece of Digital Theatre has since received a significant amount of attention. For example, Mark J. Sussman, Review of *Alladeen*, by The Builders Association and Motiroti, directed by Marianne Weems, The Harvey Theater, Brooklyn Academy of Music, New York City, 5 December, 2003. *Theatre Journal* 56 (December 2004): 695-697.

<sup>89</sup> "Alladeen is a three-part work that evokes a space beyond these outmoded borderlines, where telephone intimacy becomes a cultural masquerade performed over distances of real time and space. Less a trilogy, which implies narrative movement, than a triptych, *Alladeen* is composed of three elements: a website full of research, interviews, and documentation on the call center phenomenon; an MTV music video; and a multimedia stage play, directed by Marianne Weems of New York's Builders Association and conceived by Weems and Keith Khan and A. Zaidi of London's Motiroti, with an array of distinguished collaborators on design and dramaturgy..." Sussman, Review of *Alladeen*, 695.

outsourcing of telemarketing by First World Global corporations to Americanized employees at call centers in Bangalor, India. The piece, part documentary (including video interviews of workers shot in Indian call centers) and part fictional recreation of the Global Call Centers on stage interwoven with American pop-culture fantasies and Westernized Eastern myths, created a sense of the place or perhaps placelessness of the imaginary place presented on stage. According to Ali Zaidi, “as a whole, the *Alladeen* project explores how we all function as ‘global souls’ caught up in circuits of technology.”<sup>90</sup>

Although one might hope that a truly intercultural or telematic third space (neither entirely US, UK, or India) would materialize on stage through a meeting of the distanced workers in India and the Western actors and media production teams, what was presented in *Alladeen* was primarily an imagined landscape or illusionary place representing location created through technology, a theatrical depiction of the “internet as a tool of infinite.”<sup>91</sup> *Alladeen* is the live enactment of the scripted representation of fictional place rather than an actual multi-place experience (discussed in later chapters). The central idea of the production is that place is liminal, mobile, and tricky, now that people across the globe can claim the identity and location of a distant culture and its landmarks and identify with other distant cultures as much as their own (due to living within its information and time zone).<sup>92</sup>

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<sup>90</sup> Ali Zaidi, “Alladeen Website,” The Builders Association/Motiroti’s *Alladeen*, Bangalore–London–New York, <http://www.alladeen.com> (accessed July, 2004).

<sup>91</sup> Deirdre Heddon, and Jane Milling, *Devising Performance: A Critical History* (Houndmills, Basingstoke: Palgrave Macmillan, 2006), 211.

<sup>92</sup> When asked to give their names the call center workers in the stage production give their American television show, *Friends* character personas, and work hard to “neutralize their native tongue” (de Certeau, *The Practice of Everyday Life*, 95) (their Indianness – both in intonation and national identity),

Visually and verbally (as well as through the sound effects and underscore) the Placelessness of the Global Call Center itself as a space created through technology is highlighted. When asked by a caller, “Where are you?” the operator answers by deflecting further inquiry with: “The Global Call Center,” as if it was without geographical location. The placelessness of the Global Call Center is further emphasized by the visual depictions of the callers’ state of minds. The top half of the stage is a screen that becomes a video thought-bubble shifting between the dark of Aladdin’s cave, numerous maps, and empty deserts. As the call center workers masquerade as neighbors who know (by looking at computer data and satellite imagery) the directions to your corner store, or trivial facts that imprint them with a comforting sense of hospitality and familiarity, they too become spellbound by the cultural pull and illusion of their Western personas.

The instant gratification of Western culture served by the Eastern workers suggested by the call center’s abilities to answer trivial questions in real time from distant lands is tied to the Aladdin myth of wish fulfillment. On stage the screen above the performed call center worker characters sometimes displays the interviews of genuine Indian workers, sometimes real places, and sometimes visual depictions of the mythologies of east and west summoned by the process of calling and receiving.<sup>93</sup> Not only people, but places are confused and made mutable, slippery, and chimeral. When a

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and convince their callers that they know American neighborhoods that they have never seen. As the workers put on their western names and personas, their faces also morph from the live video feed to TV sitcom characters Ross, Rachel, and Joey from *Friends*.

<sup>93</sup> “On a split stage (a large screen the width of the stage is raised above the playing space) the actors below become part of a composite image, much like a computer screen with many windows open, which blends footage from actual call center operators with projections of contemporary cultural images, such as the characters from the popular TV series, *Friends*.” Jennifer Parker-Starbuck, “Global Friends: The Builders Association at BAM,” *PAJ* 77 (2004): 96-97.



caller is lost in the California desert, images of road maps blend into a dreamy, endless Saharan desert-scape.

The whole work seems to de-center the idea of place as stable in the technologically mediated global world. The set itself seems to slide effortlessly into place and thus from one location into another, destabilizing both. In addition to the classroom and to other tangible set units (call center desks and karaoke bar), the video setting of a Virgin Megastore, complete with city buses and pedestrian traffic, slides into place in cubes (like information packets over the internet).<sup>94</sup> This spectacle is made effective by the nonchalance of the live actress who walks across the stage in front of the projection as if this place built by data were a normal aspect of her (and by extension our) world.<sup>95</sup> Fluidity, speed, and transit are emphasized in the vacuous placeless lives of this transnational character who leads the new privileged life of jet-travel, karaoke, and ever-attached cellular phones; a lifestyle facilitated by the low-wage call center workers who are bodily bound to their office and travel with only their voices.

Watching the actors playing the workers be video taped with computer equipment functioning in full view on and to the side of the stage, gives the audience a sense that the call center has been re-built on stage. In a decidedly Brechtian exposed manner,<sup>96</sup> the computers which capture video, play animation, and thus create and mediate the

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<sup>94</sup> “Each pictorial element is flown in with appropriate sound effects: a revolving door, the concrete blocks of the building’s façade, a bus stop and a mailbox—whoosh!” Sussman, Review of *Alladeen*, 695.

<sup>95</sup> “As the piece begins, a young Indian woman ‘multi-tasks’ on her cell phone, switching between languages and discussing karaoke bars as her call waiting clicks in; a large screen behind her begins to simultaneously transform and blocks of images slide effortlessly into place like a puzzle, finally becoming a Virgin Records megastore.” Parker-Starbuck, “Global Friends: The Builders Association at BAM,” 96.

<sup>96</sup> Bertolt Brecht, *On Theatre: The Development of an Aesthetic*, edited and translated by John Willett (New York: Hill and Wang, 1957), 141.

performance, create a sense of a similarly functioning technology hub. In his review, Mark J. Sussman describes this same sense of fluidity and the information dense place that I observed in the production. He writes:

The classroom glides offstage as the projection screen rises and the sound-bed changes to a rich collage of rhythmic telemarketing chatter, dial tones, modem noise, and the compressed audio of multiple conversations. We're eavesdropping through a satellite above Bangalore. The projection screen has become a giant computer desktop, jammed with multiple windows, some of which show live video of the stage action shot by onstage webcams. Animated graphics evoke a corporate pseudoenvironment. Video and Sound technicians, mixing the various feeds, sit calmly at the stage peripheries.<sup>97</sup>

The action and the soundtrack and audible whirring away of technology in process, gives the impression that the functioning computerized stage setup is in fact creating a new placeless place (or technologically mediated environment) for us here in the audience to experience. It was truly an exciting performance moment to feel a sense of technologically mediated space created (even if in proxy) within the theatrical space. The hum of the machines recreated a sense of the placeless environment or fluxing place created through the multiplicity interactions between the fictional and actual places claimed by people on each side of the intercontinental phone calls. The sound of the machines creates a general place (any office, anywhere, nowhere) rather than a specific identifiable (or easily placed) set of sounds.

*Alladeen's* greatest accomplishment, beyond addressing growing issues of transnationality through fictional and real characters, was the creation of a theatrical metaphor (or imaginary place) to duplicate the experience of technologically created space, which many call "placeless" and could also be described as multiple or shifting

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<sup>97</sup> Sussman, Review of *Alladeen*, 696.

place. This sense of multiplicity of place was also beginning to be explored by Deirde Heddon and Jane Milling in *Devising Performance* writing on the production's fragmentation, multiplicity and hybridization of identity, when they wrote of "a location which is both/and, rather than either/or."<sup>98</sup> The production shows a fictional grappling with evolving conceptions of place in a globalizing world realized and perhaps (partially) materialized on stage. However, multiple places were only present in this production as part of the world of illusion. The idea of multiple or layered place will be readdressed in Chapter 7: Performance and Community in Cyberplace, covering telematics and multi-site performance which actually allow us to break down barriers of place and reconstruct the idea of performance place across multiple physical locations.

## **Conclusion**

In each of these Digital Theatre productions (*The Magic Flute*, *A Midsummer Night's Dream*, and *Alladeen*), digital technology was used to create illusionary places which transform the stage into the world of the play in ways which go beyond purely mechanical and physical means. The flexibility and responsiveness of animated or digitally projected settings creates a sense of lifelike depth and movement, in some cases even gaining a sense of presence or character themselves. One could think of the illusionary place created by digital spectacle as an active place or performed landscape, which would in a sense make it another actor, or the digital other of the "live" human

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<sup>98</sup> "The Builders Association... have recently used the interface between live and mediated experience in order to engage with contemporary concerns relating to globalisation, including the compression of time and space and the 'hybridisation' of identity, enabled by technology (global telecommunication and global travel). The term 'hybridisation', suited to 'postmodern' times, suggests an identity that is multiple, rather than fragmented, a location which is both/ and, rather than either/or..." Heddon, and Milling, *Devising Performance*, 211.

actor. In addition to creating illuminated settings which immerse and enrapture the audience, these digital sets capture a sense of place in a similar way to earlier spectacles of place. Just as earlier spectacles of illusionary place utilized the current tools of their day to explore and communicate new understandings of the world in which they lived, these works begin to move beyond depictions of the physical world around us to explore what is in our collective consciousness. By creating new digital worlds, these productions explore (and create on stage) our evolving concepts of place and placelessness, stimulated by the growing cultural presence of computer technologies.

## Chapter 6. Performance Places

*The theatre, as the Oxford English Dictionary tells us, is both a place and 'an edifice specially adapted to dramatic representations' and 'dramatic performances as a branch of art' ... Indeed, theatre is perhaps the only art form which the name given to artistic event occurs, or where the art object is displayed, is the same as that of the art form itself.*<sup>1</sup> ~Gay McAuley

In theatre, place is present in the form of the physical presence of building (including the stage and house) which coexists alongside the illusionary place represented by the set during theatrical performance.<sup>2</sup> It is the theatre (the actual place) which facilitates the creation of performance and the communal viewing and imagining of illusionary places. As Mark Reaney and others have noted, the theatre is a machine for imagining other places and ways of inhabiting them. In this second chapter regarding place, I will be discussing the place of performance in terms of theatre performance places (including stages, galleries, and site-specific stagings using buildings) altered by the addition of technology. I will be looking at the overlap between real and imagined places as performance environments (often stages) are expanded and augmented through the addition of digital technology. The flexibility of digital technology lends a perceptual level of flexibility and transformation to performance places. I will be discussing three main ways digital technology is affecting performance places: the relative portability of digital technology allows for the layering of media onto found spaces or converted locations, the creation of seemingly alive active or intelligent spaces, and digitally linked

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<sup>1</sup> Gay McAuley, *Space in Performance: Making Meaning in the Theatre* (Ann Arbor: University of Michigan Press, 2000), 1.

<sup>2</sup> "Theatre is an art form that plays intensively with notions of inside and outside, particularly onstage/offstage relation and presenting fictional...but the theatre building itself, in its relation to its surroundings, is also part of this interplay. There are theatres that blend with their environment, others that may dominate it." McAuley, *Space in Performance*, 51.

places creating expanded playing spaces. First I will be briefly looking at issues of portability brought up by Studio Z and the evocative and transformative effects of layering digital media on existing public structures exemplified by The Talking Birds' *Undercurrents* and George Coates' *Blind Messengers*. Next, I will be discussing the Intelligent Space at Arizona State University and in the production of *Kaspar* at University of Georgia. Finally, I will talk about the linked performance places of *Beckett Space* and *Interplay: Intransitive Senses* at the University of Utah.

## **Place and Space**

De Certeau talks about place as a location defined by its sameness or relative stability in relationship to space. In *The Practice of Everyday Life*, de Certeau said:

A place is thus an instantaneous configuration of positions. It implies an indication of stability. . . A space exists when one takes into consideration vectors of direction, velocities, and time variables. Thus space is composed of intersections of mobile elements. . . In short, *space is a practiced place*.<sup>3</sup>

If space is characterized by action, the movement of vectors, then place is the container and facilitator of this action, a location allowing for people to meet and influence the type of interactions which might happen in its space. A theatre is a place which contains a stage (or performance area) which acts as a space for enacting and stimulating imaginings.

Peter Brook was one of the first theorist/practitioners to stimulate thought in terms of performance spaces, rather than places. He talked of the theatre as a place of potential, an "empty space," a place of possibility and action. His ideas were presented his

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<sup>3</sup> Michel de Certeau, *The Practice of Everyday Life*, Translated by Steven F. Rendall, (Berkeley: University of California Press, 2002), 117.

landmark production of *A Midsummer's Nights Dream*, yet this motion-filled space was still constructed of the theatre place: a stage in a theatre building decorated with a white walled set (with trapezes representing an imagined place through the actions of the actors).<sup>4</sup> In a sense, this type of performance where an illusionary place was suggested only through actions in a void is a precursor to cyberspace which also exists as “a practiced place,” apparent only through human interactions.<sup>5</sup> In the majority of theatre experiences (with the possible exception of some outdoor and street theatre<sup>6</sup>) the theatre is a relatively stable or solid and describable location or place meshed with a performance space which is inherently filled with action and subject to change. The addition of digital technology to performance spaces causes further mingling of place and space within the performance environment.

Digitized performance environments are at once flexible and fluid performance spaces and complex places in their own right. A performance site layered with digital images can complicate the sense of place and temporality or public memory. Stages made interactive (seemingly active) through digital means carry a sense of being both a space of potentials and a unique place which can facilitate human/computer interactions. Digital Theatre performances held in such linked, layered, and active venues are staged at once in spaces and in places.

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<sup>4</sup> Peter Brook, *The Empty Space* (Harmondsworth: Penguin Books, 1968), 1, 42-43, 97, 157.

<sup>5</sup> De Certeau, *The Practice of Everyday Life*, 117.

<sup>6</sup> In street theatre, place is still present as part of the performance because although the location of the performances may vary, the places they inhabit including parks, public squares, boulevards etc. are all places in themselves lending a color or sense of the place to whatever theatrical actions inhabit them. Likewise, place is found in outdoor performance in many venues such as the solidity of ancient Greek theatres (like those at the Theatre of Dionysus in Athens, at Epidaurus, and at Delphi) and their geographical positions relative to important places which allow for the viewing of surrounding landscape and a define sense of place.

## ***Historical Precursors***

The key to understanding the impact of digital technology on performance spaces is to recognize the ongoing desire for flexible, transformative theatre performance places. In the last chapter I talked about the creation of illusionary places through such mechanical means as Italianate scenery—which also transformed the construction of stages (and thus performance spaces). However, the next evolutionary leap in technology to electric lights and film so eagerly taken up by early 20<sup>th</sup> century artists (such as the Futurists and Bauhaus) lead to a whole new conceptualization of the playing space or place of performance as a pulsing, almost living thing.

### **Craig's Screens**

Before the use of film on stage, Edward Gordon Craig made important advancements to the flexibility and malleability of the stage. As a scenic designer he is among the first to experiment with screens as scenic element and projection surfaces for light. He sought to create spaces that were transformable, as well as economical and easily assembled.<sup>7</sup> According to Kirby his screens “foreshadowed the basic concept of kinetic scenography...[he] showed a stage setting or ‘instrument’ called ‘Scene’ that was endlessly transformable and in which the movement of the physical elements was to be

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<sup>7</sup> “Indeed, to Craig one of the selling points of his screens was their economy. Not only were their initial construction costs low, but also exactly the same screens could be reused for play after play...” Christopher Innes, *Edward Gordon Craig: A Vision of Theatre* (Ontario: York University, 1998), 142-143. “Three men in three minutes could move or remove a whole scene and, folded flat, each screen would take up very little space. The obvious advantages are the ease and quickness with which these things can be handled and the simplicity of the manipulation.” Edward Gordon Craig, “Towards a New Theater -Craig on his Screens,” in *Edward Gordon Craig: A Vision of Theatre* by Innes, Christopher (Ontario: York University, 1998), 285.



an important part of the performance.”<sup>8</sup> Craig was working primarily with light and the shapes of the screens, allowing the forms of the actors to play against their transforming arrangement.<sup>9</sup> In his productions as many as twenty different screen arrangements created a dynamically changing sense of illusionary place.<sup>10</sup>

According to Innes, in his Moscow production of *Hamlet*, Craig’s screens could have created movement within scenes as well and created “the almost continual movement that he envisaged... In many ways, the screens seem to be the right instrument for creating the shapes of places ‘never seen before except in the mind’s eye.’”<sup>11</sup> The flexibility of place and playing space envisioned by Criag, recalls the Gropious’s similar desire for a flexible, Total Theatre. Criag writes that through the repositioning of his screens, the set “can seem like four hundred other places. It has a quite clear resemblance to four hundred different places.”<sup>12</sup> His suggestion of creating a scenic machine or environment without actors presages Futurist manifestos and Bauhaus experiments.<sup>13</sup> It is enticing to imagine that today’s digital technology would allow Craig to create a playable

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<sup>8</sup> Michael Kirby, with some translations by Victoria Nes Kirby, *Futurist Performance* (New York: PAJ Publications, 1971), 77.

<sup>9</sup> See Craig, “Towards a New Theater - Craig on his Screens,” 279, and 286. Note that later Svoboda will play with the both the flexibility of positioning screens and projected images.

<sup>10</sup> “As the evidence of Craig’s models shows, there was to be a different arrangement of screens for each of the twenty scenes in the play...”(*Hamlet*). Innes, *Edward Gordon Craig: A Vision of Theatre*, 164.

<sup>11</sup> Innes, *Edward Gordon Craig: A Vision of Theatre*, 169.

<sup>12</sup> Craig, “Towards a New Theater - Craig on his Screens,” 277.

<sup>13</sup> Craig quoted in Innes *Edward Gordon Craig: A Vision of Theatre*, 182.

space or a set-machine with the “ability to be changed and altered...by a momentary idea,” creating the “intangible” flexible machine he imagined.<sup>14</sup>

Today, Digital Theatre techniques allow for the seemingly effortless transformation one illusionary place into another, but also for the transformation of seemingly mundane locations in theatrical playing spaces. From classrooms to public squares, digital technology facilitates the quick flexible translation of the everyday into the imaginary. One current group that would make Craig (the creator of practical and portable screens) proud, would be Chicago’s Studio Z.

### ***Portability/Found Places***

The increasing portability of digital technology is bringing the space of performance (along with the spectacle of computer fabricated illusionary place) to some unusual or non-standard theatre locations. First, I will cover the case of the use of digital projections to create portable scenery in Studio Z in classrooms and other indoor multi-purpose rooms, then I will delve into works by George Coates and Talking Birds which utilize the place-ness of their found, public locations.

### **Studio Z**

Studio Z, a “multimedia improv company” is a Chicago arts organization dedicated to integrating live theatre and digital technology.<sup>15</sup> Studio Z, run by Dan

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<sup>14</sup> “I do not feel responsible, and one scene or another, one colour or another, one emotion, movement or intention or another seems to me a matter of indifference if it cannot be changed and altered ... by a momentary idea.” Craig in *Edward Gordon Craig* by Innes, 180. Craig never developed a mechanism flexible enough for the instrument he imagined. Hydraulics were one potential solution.... But the hydraulic lifts by which this was achieved were too cumbersome for the type of movement Craig had in mind.” Christopher Innes, *Edward Gordon Craig* (Cambridge: Cambridge University Press, 1983), 182.

Zellner is exploring digitally facilitated portability (and flexibility). Through these efforts, “Studio Z fosters the viability and accessibility of theatre in the 21st century, providing new levels of interaction on a cross-community, national and international stage.”<sup>16</sup> In their ongoing collaboration with Universities (Northwestern University Center for Art and Technology, the University of Georgia Department of Theatre and Film, and the University of Illinois Electronic Visualization Laboratory), Zellner and Katherine Farley have become proponents of using digital media projection as a means of teaching and demonstrating improvisational performance with limited sets in their portable presentations across the country (and in Europe).<sup>17</sup>

In contrast to Reaney’s projected graphics, Studio Z’s are simple, as the emphasis of Studio Z is not on creating spectacular virtual sets, but in creating a mobile performance setup with a digital library of scenic elements to support improvisation around a set of stock characters in the manner of a traveling Commedia dell’ Arte troupe.<sup>18</sup> The major influences of Studio Z are the Commedia dell’ Arte tradition and the

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<sup>15</sup> In February of 2003, I visited Studio Z, run by Dan Zellner out of a wood floored converted studio space in Chicago. While the production I attended (*You Gotta Be ‘Clidian Me*, written and directed by Gregory Winston) was not yet a polished work, but I was impressed by the idea and much of the technology behind their work. Unlike the projected sets created by Mark Reaney, the graphics I saw were, on the whole, rather simple and still evolving. Emphasizing their interest in improvisation, Zellner talked at length about the Commedia and Second City traditions that he and his group were embracing. The walls of the studio space were decorated by a variety of Commedia masks. Studio Z consisted of a group of four improvisation-trained core actors familiar with a set of stock local characters (such as a Chicago Cubs fan and a coffee barista), and six different writers creating short-beat scripts. Zellner’s vision for the future is to develop Studio Z into a digital improvisation company, with constant players creating new content every night.

<sup>16</sup> Dan Zellner, “About Studio Z,” <http://www.studioz.org/about.html> (accessed May, 2006).

<sup>17</sup> Dan Zellner, “About Studio Z,” <http://www.studioz.org/about.html> (accessed May, 2006).

<sup>18</sup> Zellner also commented on the difference between their version of Digital Theatre and Kansas’s Virtual Reality Theatre. He indicated they were “not like Kansas,” saying that everybody expected the holodeck, but that their theatre was simply not even an IMax experience. Dan Zellner, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, February, 2003. Zellner said that with additional time, grants, and resources they could improve their 3D

Chicago institution of Second City improvisational theatre. The cabaret style shows follow branching narratives, which are influenced by the audience feedback. The complex technology is complemented with simple theatre scenarios. Zellner said that because the digital technology was so new, they needed more accessible stories.<sup>19</sup>

Like many improvisational groups, portability and flexibility are the keys to their work. They take the theatre place, the mechanism for visually assisting the creation of imaginary place, with them into most any facility. Rather than traveling with sets, flats, and other dressings, the group carries only its digital equipment which can be set up in any space with an electrical outlet or two, and new projected image scenic elements can be created to fit whatever is needed by current productions.<sup>20</sup> Zellner suggests that the digital setup is also cost efficient; for once the initial purchase of equipment is made, the continued cost of operation is negligible. Craig might be pleased with the group's financial and physical economy, given the use of screens and projections which do not require physical sets to strike and break down.

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graphics (and utilize their VR generator more), but adds that even with Kansas's productions "sometimes it works, sometimes it doesn't." For now, the time investment in making high quality animations is not worth the investment for their current improvisational needs. Zellner discussed the amount of time it takes to create the scenic graphics (nearly 20-30 hours), suggesting the use of video and still images as well to cut down on production time. Studio Z was also working on creating a media gallery or library of interactive objects and stock media.

<sup>19</sup> Dan Zellner, in "The Search for Digital Theatre," by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, Chicago, IL, February, 2003.

<sup>20</sup> "Supporting this work will be technology that is 'theatre friendly' (i.e. easy to use/keeps pace with the creative process), including: software, such as Arkaos, a program used by University of Georgia in its introductory interactivity classes, and hardware (projectors, screen, computer and audio equipment), as adapted in consultation with HIC's Electronic Visualization Lab (EVL)." Kathryn Farley, and Dan Zellner, "Projects in Art and Technology: Multimedia Improvisation," Course syllabus for a class offered by Northwestern University's Center for Art and Technology. <http://www.kathrynfalley.org/pdf/multimediaimprovclasssyllabus.pdf> (accessed May, 2006).

Studio Z can create new visual settings in the form of animations, images, and videos which pack up and travel simply, along with their two rear-projection screens, Mac computers, and projectors specially outfitted with mirrors to cut down on projection throw distance. The reduction of the projection distance allows the actor to stand in front of the projected sets even in rooms with limited space, giving the group the ability to perform in varied indoor spaces.<sup>21</sup>



*Figs. 55 and 56: Dan Zellner, director of Studio Z. The projector-mirror setup used by Studio Z. Photos by author.*

Overall, I was impressed by the flexibility of space, the performance setup time, and the responsiveness of the media to the actors' improvisations. The equipment allows them to easily visit different areas in the community. Studio Z is committed to the idea of "meeting people at their level," and using what technology is available to them to

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<sup>21</sup> The portability of Studio Z's screen/projection system can be contrasted with the staging spaces necessary for Mark Reaney whose front and rear projections for *Magic Flute* were set up for an approximately 500 seat proscenium theatre (The Croften Playhouse); or even Troika Ranch, whose *MidiDancer* and computer equipment travels with them, but they still need sufficient performance space to both dance and allow for rear-screen projection (unless they are willing to have the performer cut the beam of light). While each of these media performer/artists have similar computer equipment and utilize flexible digital data (often in library form), Studio Z's projection equipment allows them to be much more flexible and portable in terms of the space in which they perform.

create Digital Theatre.<sup>22</sup> Zellner suggested that other potential Digital Theatre practitioners could simply use Microsoft PowerPoint and the like to fit their abilities and the needs of their communities.

Northwestern University's EVL (Electronic Visualization Lab) has provided much of the technical support for developing Studio Z's technology, even installing and adapting a video sampler, Arkaos. The group's technical coordinator Joseph Kowalenko, adapted technology into what Zellner likes to call a "platform which is theatre friendly technology."<sup>23</sup> Their equipment consisted of three rear and front projection screens with easily assembled aluminum extrusion frames, and three control stations on wheeled carts which could fit easily through a standard doorway. The three could be used together to create a VR CAVE environment, but only one was sufficient for their current play's backdrop. They also had projectors outfitted with special mirrors which would cut the projector's throw distance in half. Studio Z utilized only existing platforms for design, eschewing cutting edge technology, saying that they preferred to let others do the testing.

Zellner talked about using the screen (and its projections) as one would use or layer traditional backdrop scenery.<sup>24</sup> Instead of a theatrical model of two scenic locations, he suggested that the digital tools allow for an easy change of locale. His idea was to break down the conventional model and use short scenes in different locations. To

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<sup>22</sup> Dan Zellner, in "The Search for Digital Theatre," by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, February, 2003.

<sup>23</sup> Kowalenko created a theatre-friendly version of digital media VR 3D graphics (not using goggles) and tested a projection of CAVE at the Electronic Visualization Lab. Dan Zellner and Joseph Kowalenko, in "The Search for Digital Theatre," by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, February, 2003.

<sup>24</sup> Dan Zellner, in "The Search for Digital Theatre," by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, February, 2003.

that end, North Western University's EVL (Electronic Visualization Lab) lab created six to seven rehearsal (VR animated) sets.<sup>25</sup> Zellner discussed the realities of utilizing a screen as a background for action, like adjusting to depth of playing space, adjusting the lighting so that faces were not washed out, using areas behind the screen, and dialoguing with the projections on screen.<sup>26</sup>

Much like the recent television program, *The Green Screen Show*'s use of symbolic props, scenic locations, and sound effects can support the actors' efforts to present stock characters and allow them to interact within a number of amusing scenarios in front of instantly changing illusionary places.<sup>27</sup> Zellner's group creates new improvisation around contemporary situations complemented by digital visuals which can be changed with the click of a button to respond to actor or audience input. With simple iconic costuming and props, and the highly flexible projected backdrop which can be pulled up from a digital library of stock images, sounds and other media reflect audience input, the actors improvise new stock characters such as the Chicago Sports Fan (descendants of Arlecchino and Pantalone).

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<sup>25</sup> Studio Z had been working with EVL to experiment with movement in relation to stage action (side to side, up and down stage) as well as depth of playing space.

<sup>26</sup> Zellner said, "For me, the screens solved a lot of atavistic issues, scenically—writing for the TV generation which I am part of," their techniques allow the media to be "alive digitally." Dan Zellner, in "The Search for Digital Theatre," by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, February, 2003.

<sup>27</sup> Unlike the television program *The Green Screen Show*, in which actors improvise before the studio audience then visual effects are laid in on top of their images later through video compositing, Studio Z actors respond live to the visual stimulus which are projected behind them. What is lost in the Studio Z theatre model are some of the effects of animating or costuming over the actors, but what is gained is the spontaneity of actors responding to visual elements in real time. Drew Carey, *Drew Carey's Green Screen Show*, Associate Director Kent Weishaus (Hollywood, CA: International Mammoth Television and ACME Film Works 2004).

The portability of this work, the ease of setting it up inside of classrooms or other multipurpose places, suggests the possibility of similar uses of traveling projection technology companies to create imagined places via digital scene design and by extension mobile theatrical places. The portability of their set-up allows the group to new locations outside of pre-existing theatre places, extending the spectacle associated with theatrical place to almost any room. Their technique has been transformed into a class which allows students to combine improvisational acting and digital media in existing classroom spaces.<sup>28</sup> Studio Z director, Dan Zellner said of the class, “I hope [students] take away a new concept for theater so that they don’t get too locked into one idea of what theater can be.”<sup>29</sup> His statement could be extended to other types of groups experiencing media performance first hand. Zellner’s sentiment shows the merit of portability or mobility allowing access to Digital Theatre techniques to new communities, thus expanding current perceptions of theatre. In portability of their work there are the distant echoes of commedia troupes but also door-to-door *Lanterna Magikas*, and *Vaudeville*.<sup>30</sup> There is something inherently liberating about the idea that theatrical place (and the performance of digital spectacle) can be freed from the theatre building and

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<sup>28</sup> “This class will provide students a unique opportunity to collaboratively conceive, stage and present an improvisational multimedia work—a comedic performance that will combine digital media with improvisational methods, as developed by Neva Boyd’s Hull House creative group play, the work of Viola Spolin, and Second City artists. The foundation of the text will be Dan Zellner’s *FIRT(ive) Encounter*, a *Commedia Dell’Arte* inspired contemporary scenario which draws on familiar Chicago characters, places and narratives to formulate a comedic tale of ambition and power.” Farley, and Zellner, “Projects in Art and Technology: Multimedia Improvisation.”

<sup>29</sup> Zellner quoted in Lindsay Sakraida, “New Class Blends Digital Design with Improv Theater-Multimedia Improvisation to Pursue ‘Deeper Meaning’ in Comedic Scenes,” *Northwestern Daily News* (May 22, 2003), [http://www.kathrynfarley.org/pdf/Press\\_about%20Multimedia\\_Improv\\_Class.doc](http://www.kathrynfarley.org/pdf/Press_about%20Multimedia_Improv_Class.doc).

<sup>30</sup> See Mannoni, *The Great Art of Light and Shadow*, 78.



allowed to travel between places, bringing Digital Theatre spectacle to multiple locations and communities.

Both of the next performance examples utilize the portability of digital media to bring Digital Theatre into their communities. In the processes they transform preexisting places into digital performance spaces which mix real and imagined places, and memory or fantasy and reality. The digitization of found spaces or public places used as performance spaces are at the core of what makes these two pieces of Digital Theatre compelling. But before I discuss these contemporary works, I'd like to briefly ground the idea of performing in public or real places in the context of site-specific theatre and staging reenactments.

### ***Historical Background: Staging Real Place***

Utilizing pre-existing places can prove a powerful way to utilize their history and concreteness in performance, lending an air of authenticity or reality to theatre. In site-specific staging (in places such as warehouses, historical buildings<sup>31</sup>) the audience experiences the physical place as part of the world of the play and illusionary place and the place of the performance seem to rub off on each other, enveloping the spectator (and performer) in a mix of real and fantasy. Mike Pearson, and Michael Shanks, site-specific theatre practitioners and authors of *Theatre/Archaeology*, wrote:

The continuous use and reuse of locations bestows meaning upon them, affecting the way in which they are experienced. This is only partly to do with the configuration of the space, and partly to do with what one brings

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<sup>31</sup> Here I am thinking of the visceral nature of taking the audience into a building which surrounds them in the story such as *Tony n' Tina's Wedding*, Nancy Cassaro (and the Artificial Intelligence troupe), *Tony n' Tina's Wedding* (New York and Hollywood: Samuel French, Inc., 1999).

to the place: an attunement, an awareness of the place's historicity. The place is 'read' and thereby interpreted in the same way as...the performance. Indeed, the reading of the place is a part of the setting of performance, as much for the performer as for the watcher. By a mirror-play, each site gathers its surroundings, in association and connotation. Places are reworked by playing upon and transforming past associations and meanings.<sup>32</sup>

Site specific staging is not an altogether new theatrical phenomenon. As long ago as Evreinov's *The Taking of the Winter Palace* in Russia (1919) (and likely before) there have been events which were at once a staging of real and imagined place. In such performances, the actual place becomes as important as the characters and their actions. In historical reenactment, the moving elements of spectacle (a cast of more than eight thousand soldiers, sailors, workers, and actors, as the people, often, as themselves) used to stage the Bolshevik uprising and legitimize their ideological triumph, shared the stage with the location.<sup>33</sup> But perhaps the key player in the action was the place, the Winter Palace. The action, the storming of the palace, literally "took place." The main action of repeating (and theatrically amplifying) the series of symbolically potent acts was made possible by the location. The gates, courtyards, staircases, throne room, etc. all played their part in legitimizing the action and in creating the spectacle. Likewise, American reenactments of Civil War or colonial events staged at Williamsburg gain their legitimacy from actions tied directly to the ground upon which they are played out.

This same phenomenon can be seen in two Digital Theatre works by practitioners Talking Birds and George Coates. Their shows demonstrate a connection of performance

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<sup>32</sup> Mike Pearson, and Michael Shanks, *Theatre/Archaeology* (London and New York: Routledge, 2001), 110.

<sup>33</sup> Oscar G. Brockett and Robert Findlay, *Century of Innovation: A History of European and American Theatre and Drama Since 1870* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1973), 315.

to location and the blending of real and imagined place through performance utilizing digital technology.

The Digital Theatre works which I will be examining include the Talking Birds' *Undercurrent*, and George Coates' *Blind Messengers*; each of which blend real and imagined place through projections, one by restaging the past, and the other by envisioning the future. By utilizing real places or found spaces they are drawing upon recognizable locations community, and by layering these landmark buildings with digital scenic elements, these productions simultaneously create a performance space and draw from a pre-existing sense of community. The performances mix public places and private memories, thus privatizing public spaces and extending a sense of community.

### **Talking Birds**

The Talking Birds are a theatre group specializing in community-devised, site-specific theatre operating out of Coventry, England.<sup>34</sup> Their core members are Derrick Nesbit, Janet Vaughan, and Nick Walker.<sup>35</sup> According to the group, their process for creating new works is to first find a location that interests them and has a special resonance or significance for the local community. Once the place is identified, the Talking Birds make a connection with the community to discover the place's history and

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<sup>34</sup> In July of 2006, I met with The Talking Birds, and interviewed their members (Derek Nisbet, Janet Vaughan, Nick Walker, et al.). Through research and interviews, they reinvest their places with the stories that made them places rather than edifices. Though Nick Walker, director of the group, does not like Talking Birds to be considered primarily a Digital Theatre company, it is clear that they deftly utilize digital media (such as video and audio) to help them create a re-staging of place in many of their works. While I may not directly quote them in this document, our conversations confirmed and supported many of my suppositions about the production and process of *Undercurrents*, as already written in this chapter at the time.

<sup>35</sup> Their various roles in the group are: Derrick Nesbit, sound/video; Janet Vaughan, set/costumes/lights; and Nick Walker, writing/directing.

to trade ideas, share resources, conduct research, and learn local oral histories. Vaughan said that they interview people, asking them: “what would you like me to know about (this place)?”<sup>36</sup> The Talking Birds then proceed to create media and performance text, and craft a performance in the chosen space. Walker suggests that each site has unique challenges, a unique story and approach. Walker also said that the digital revolution has opened things up for them, and helped them move away from theatres to other sites. He said that now that the means of production are smaller and more manageable, transformative effects can be carried in a kit with you, allowing you to transform different spaces.



*Figs. 57 and 58: Talking Birds working in a decommissioned hospital, setting up for Three Doctors, a site specific performance. Photos by author.*

Place holds a special interest for Talking Birds. Vaughan says that, as a group, they specialize in “acts of transformation.” She said that they are also interested in shifting peoples’ perception of a place for the next time they visit. One audience member even moved back to Scarborough after seeing their production, *Undercurrents*. Walker told me that Talking Birds were drawn to “neglected, about to be destroyed places.”<sup>37</sup>

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<sup>36</sup> Derrick Nesbit, Janet Vaughan, and Nick Walker, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, July, 2006.

<sup>37</sup> Nick Walker, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, July, 2006.

They had a preoccupation with buildings that were about to be destroyed. He said, “I think...it’s because of...the impending big boom...and we are given this drama-time to reflect...making sure they don’t misuse monuments, or that they don’t just slip away—I think that’s a sort of useful role.”<sup>38</sup> Nesbit told me that in both *Wanderlust* and *Undercurrents* they used architecture as a projection surface. Walker describes going into “places that have touched people, expecting to be pushed or challenged,” stating that they “don’t have total control over the specific site, or how things work in that setting.”<sup>39</sup>

In 2000, they traveled to the English seaside resort of the Sun Court at the Spa in Scarborough, researched the place and devised a performance which reanimated life at the resort at its height in the early 20<sup>th</sup> century. The project, a unique pedagogical model, was a collaboration between students of the Hull University Scarborough Campus and the professional media-art group. The *Undercurrents* project’s progress was documented online in a visual rich website logged both the historical findings (letters, black and white photographs, newspaper clipping, etc.) and the performance process of the group. The project is unique in that, somewhat like *Alladeen*, it exist(s) in two parts, recorded and live. The *Undercurrents* project continues to have digital presence online through the website which acts as an archival time capsule for both the resort’s history and the student/professional group. Talking Birds “enjoy collecting stories from people, being put in touch with various individuals, working with the community, creating an online scrap-book, posting thoughts, images, sounds, or videos, so that to some extent the show

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<sup>38</sup> Nick Walker, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, July, 2006.

<sup>39</sup> Nick Walker, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, July, 2006.

is shaped by those who choose to participate.”<sup>40</sup> It also had an ephemeral component, a Digital Theatre performance where digitized media and live student actors combined to stage an interpretation of life at the resort for a local audience.<sup>41</sup> It is this live theatre event which intrigues me most, because it offers a look into the digital re-staging of the place (the resort) through digitized photographic memories.

In the show, digital projections were used in a live performance which reenacted elements of life in the place’s heyday. Images of the past were projected back onto the place where they originated, in a production which seemed to have a sense of being imbued with memory, animated with the spirits of the past.<sup>42</sup> This ghosting is also due to the doubling of the images of bodies from the past mixed with the healthy bodies of the students alive in the present, vigorously reenacting past dancing and swimming. Some of the historical images were projected, while others were recreated in video or by the live actors onstage in actions representing the former life of the resort. Video imagery of the students swimming (in the manner and costumes of period bathers) as well as on stage action such as dancing, mixed to create a hybrid spectacle fusing multiple temporal interpretations of the same place. Walker said, “Past, present, and future exist on the same place at the same time, kind of like the lay line principle - that becomes the opportunity to see that experience of place...compacted history by overlapping...past

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<sup>40</sup> Derrick Nesbit, Janet Vaughan, and Nick Walker, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, July, 2006.

<sup>41</sup> Talking Birds, “About *Undercurrent*,” <http://www.helloland.co.uk/undercurrent/about/about.html> (accessed May, 2006); and <http://www.helloland.co.uk/undercurrent/post/script.html> (accessed May, 2006).

<sup>42</sup> Viewing the website’s archival images of the production, there is a sense of a pleasant haunting, as the projected light finds a projection surface on screens behind the performers, set on the promenade facing the sea, while gaps between screens caused the light to spill over and glint eerily like beacons from the beach (backstage). Talking Birds, “About *Undercurrent*.”

intervenes.”<sup>43</sup> He believes that “if a place like a car park, or a hospital was on peoples’ walk to work, in the fabric of every their day life, then the building should be changed for them, and become part of their history.”<sup>44</sup>

There is a duality inherent in site-specific stagings, a tension between past and present places. Mike Pearson and Michael Shanks wrote that in the staging one was “aware of its nature as a contemporary act, as the latest occupation of a place where previous occupations are still apparent and cognitively active, the friction of what is of the place and what is brought to the place.”<sup>45</sup> This past reality, seen in projections of grainy photos, having become the imaginary landscape of the past was projected against the real facade of the building, the actual physical place as it existed in the present.

Here the two kinds of places overlap—the real and imagined (and the performance place and the illusionary place).<sup>46</sup> Through the passage of time, the reality of the past had faded into the world of memory, which was then invoked in the performance. There is a sense of duality, of the past re-lived through these intersections between images of the past and present. In a sense a public place was being infused with

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<sup>43</sup> Nick Walker, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, July, 2006.

<sup>44</sup> Nick Walker, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, July, 2006.

<sup>45</sup> Pearson, and Shanks, *Theatre/Archaeology*, 110. “At site, architecture and everyday usage may suggest a dispersal of activity and modes of performance. There may be an existing institutional arrangement of watchers and watched which can be annexed: the formal organisation of pulpit and congregation in a chapel or beds and in a hospital. However, site-specific performance may allow the construction of a new architecture, imposing another arrangement, floor-plan, map or orientation which confounds everyday hierarchies of place and patterns of movements...aware of its nature as a contemporary act, as the latest occupation of a place where previous occupations are still apparent and cognitively active, the friction of what is of the place and what is brought to the place.” Pearson, and Shanks, *Theatre/Archaeology*, 130-131.

<sup>46</sup> Vaughan also talked about layered memory in *Undercurrents*. She explained how at the end of the show was the image of the building digitally washed out to sea.

private memories, from archival material and community member's recollections. The website states: "This part of the seafront may be familiar to you. You may have walked here many times. It may hold many memories. You might know its past or have an opinion about its future...Or perhaps this is your first visit...Whatever your relationship is to this place, it will not be the same as the person standing next to you, and it will not be the same as ours."<sup>47</sup> It is possible, and perhaps desirable, to imagine that a sense of continuity for the place is achieved through the local audience and community with the multiple presence of ties to the past (historical images), present (the location), and future (with grandchildren reenacting memories of the older audience members).<sup>48</sup>

Perhaps there is a third sense of place, an *invoked* place, not necessarily imagined (as one would imagine a distant land) but recalled; a sense of place formed where imagined and real overlap. One could conjecture that this third place is a space experienced by the audience as either a comfortable daydream blurring between memory and immediate senses in the minds of those who remember the past, or even as a discomfiting sense of the present when seeing the students "act" on a grand old stony sea-side promenade in the dark, flanked by the incongruous undisguised presence of technology (computers, wires, monitors, projectors etc.).<sup>49</sup> Through the logged audience

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<sup>47</sup> Talking Birds, "*Undercurrent*," <http://www.u-current.co.uk/post/sitemap.html> (accessed April 2004).

<sup>48</sup> Some audience members were old enough to remember when the resort was up and running. Vaughan said that Talking Birds is usually only interested in the past century rather than the ancient past because there are still people to remember.

<sup>49</sup> Walker said that "Its kind of the brightness of memory, how best to reflect...and create." He noted that memory could be warped as well. He stated that they wanted to use memory as material for their productions without debating the material, but collecting too many examples to focus on just one, so that they could hint at a few, thereby express many – an abstracted memory. Walker stated that for them, memory as a resource to be manipulated, stretched, bent, like a digital sample. It was like an act of memory, understanding that "it wont be repeated in the same way, just a pure moment recall, altered and



response, I can hypothesize that there could have been an at least momentary disjoint between the sense of the present place as real and memories as having a deeper connection of “reality” to the resort before it was abandoned.<sup>50</sup> Whatever the case, it is clear that this Digital Theatre project combined real and imagined places in a unique and captivating way, layering past with present through images, action, and the presence of the place, the resort, itself. Another performance which utilized a public places as a performance space and blended real and imaginary places is *Blind Messengers*.

### ***Blind Messengers***

In *Blind Messengers* (1998) by Coates Performance Works, George Coates utilized a public courtyard as a performance space, turning it into a place of theatre reflective of the community for which, and in which it was staged. This original performance, often referred to as a digital “opera” used projected digital animation and video to blend fictional and actual places on the side of a commemorative public sculpture.<sup>51</sup> Again, temporal place shifted while the physical site remained the same.

*Blind Messengers* was staged in a public square at the Sesquicentennial celebrations for the state of California at the capital in Sacramento, and held in front the sculpture at the (then) new Golden State Museum. It is interesting that like the previous

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manipulated.” Nick Walker, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, July, 2006.

<sup>50</sup> Although the site has a limited number of audience responses, the tone of the text seems to indicate younger viewers: Gemma (a spectator): “The projectors used were brilliant. It helped to visualize what Scarborough was like before when it was a popular holiday resort. When looking at the old projections and pictures on the walls it set the scene for the action going on on stage.” Gareth (a spectator): “Overall I was left with a feeling of melancholy...sadness for how much this place has decayed.” Both quotes from Talking Birds, “Feedback,” <http://www.u-current.co.uk/post/feedback.html> (accessed May, 2006).

<sup>51</sup> Vicky Elliott, “Light on the Wall,” *San Francisco Chronicle* (23 September, 1998): A15.

performance, *Undercurrents*, the overlapping of imagined place is interlaced with the idea of time, but with an emphasis on the future rather than the past. In addition to the physical edifice and cityscape, the present day place and its cultural and economic landscape was inherent in the production's digital effects, made possible by corporate sponsorship and technology provided by the booming Silicon Valley giants (such as Sun, Macromedia, Adobe, and Apple). Through the presence of the new sculpture, the past was now a solid element of the current physical reality of the place (the square), and was intended as a key to the imaginative reality that once existed in the region's past.

As the production moved first backward then forward through time, and the face of the sculpture seemed to adapt to the element of time. The images of the past existed as a partial bridge between the past (now an imaginary place) and the present place (the public square). Tableaus vivantes and reenacted poses using video and live action seemed to emerge from the rock surface so that both the real and imagined place remained throughout the action, recalling Pearson and Shanks' idea of temporal friction or layering. The animations also took the gathered audience not only into the past by animating the tableaus depicted in the sculpture, but forward in the civic community's timeline into the fictional future.<sup>52</sup>

Through the imaginary place projected directly onto the real, the audience can see the animated effects of wear on the stone surface. The animated effect of weathering the building demonstrates how digital media can alter our perception of a real performance place (by mixing it with changeable illusionary place). The new landmark becomes

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<sup>52</sup> It featured live singers and an 80-member choir ("from the future"), as well as newly composed music by international techno-musician Forest Fang. Through digital projection, the art on the mural came to life, showing first early images of cave people to later murals of Diego Rivera, and finally the images aged into the future where the mural needed to have its words repaired.

cracked, dirty, and worn, lending if not an air of believability to the fictional future characters who address the audience with charming tricks and insights, then at the very least causes the audience to reexamine their physical and temporal surroundings—to reexamine the idea of place.

The sense of existing in the present as a real and unaltered place is thrown off balance by the flash of a digital imaging system which projects back a still image of the audience to themselves.<sup>53</sup> The characters of future scientists gathering information act like temporal tourists snapping photos, but the clever looking effect serves the purpose of visually incorporating the present day audience into the projected scene. This makes the current community aware of *their place*; including their actual physical location (in seats watching the centennial celebration), as well as their larger part in the fabric of the community and in the ongoing history of the region. By digitizing the live audience, Coates was not only integrating them into the performance, but making them part of the tapestry of stories which made up the imagined place, as well as the very real presence of digital industry and culture essential to the city. Conceptually, he succeeded in integrating real and imagined places (and people) through digital media.

Both *Undercurrents* and *Blind Messengers* blended real and imagined place through digital projections. As site-specific performances they drew upon the place-ness of local landmarks, repurposing these public places for acts of imagination, simultaneously creating a performance place facilitated by digital technology and framed

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<sup>53</sup> This same effect is used in the Flying Karamazov production, *L'Universe* (2002), and Svoboda used a similar device in 1965. See Robert Hurwitt, "Karamazovs Juggle Puns, Technology in Show," *San Francisco Chronicle* (April 18, 2002), D1, D5. And/or Paul Magid, and Howard Jay Patterson, "The Flying Karamazov Brothers," [http:// www.fkb. com/](http://www.fkb.com/). And Jarka Burian, *The Scenography of Josef Svoboda* (Middletown, Connecticut: Wesleyan University Press, 1971).

within the gathered community. And all three of these examples, including Studio Z, demonstrate the portability of digital technology and its ability to adapt found spaces into something new. Now I would like to introduce the idea of an almost totally flexible digital performance space, a place intended to create performance in concert with technology.

### ***Intelligent Spaces as Active Places***

Intelligent Spaces are active places where the digitization and responsiveness of the playing space performance takes on another dimension, and seems almost alive. Through interactive sensors, performance spaces can be wired to become sensitive to human movement and commands, engaging in almost a conversation with the performer (as was demonstrated with similar MIDI-technology used by Troika Ranch in an earlier chapter). In the process such performance spaces are incredibly flexible and reactive, suggesting both an animate sense of space (composed of invisible vectors and motion), and until we become accustomed to these rare theatres they retain a definite sense of place through their unique status as wired stages. But before continuing to describe and illustrate these digitized performance venues, I would like to suggest that they fill theatre practitioners and scholars' desire for a flexible playing space which has been around longer than computers.

### **Historical Background**

Interest in creating a mechanized flexible or transformable place for performance has been with us since the birth of the 20<sup>th</sup> Century. Recall Criag's interest in creating a

scenic machine or environment for the “movements of some intangible material”<sup>54</sup> with the “ability to be changed and altered...by a momentary idea.”<sup>55</sup> His ideas were similar to the way digital media is now easily altered in a moment by performers and artists in digitally enabled playing spaces. Likewise the Futurists were interested in creating a flexible playing space of lights and sounds. Both Futurists and Bauhaus writings offer examples of “mechanized scenery,” revealed stage equipment and sometimes excluded the human element.<sup>56</sup> Most intriguing is their idea of a performance controlled by a central source. Futurist light scenes were meant to be controlled by a central artist at a keyboard, who would “stand as ‘the perfect engineer’ at the central switchboard, from where he would direct this feast for the eyes.”<sup>57</sup> While this idea can be applied to a behind the scenes artist (like Mark Reaney) it could also be an asset in understanding the total flexibility of their ideal performance space. The Futurist idea of “sensitive darkness” sounds almost like a description of today’s digitally enabled intelligent space (and also

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<sup>54</sup> Craig quoted in Innes, *Edward Gordon Craig*, 182.

<sup>55</sup> “I do not feel responsible, and one scene or another, one colour or another, one emotion, movement or intention or another seems to me a matter of indifference if it cannot be changed and altered ... by a momentary idea.” Craig quoted in Innes, *Edward Gordon Craig*, 180.

<sup>56</sup> Mechanized scenery: “...Paris in 1927, no actors were on stage in the second section, and only machines performed: a fan turned, a large red jukebox glowed, and an elevator went up and down. This, however, was part of a story about the adventures of a satyr and a nymph in a big city!” Kirby, *Futurist Performance*, 93. Revealed stage equipment: “Heinz Loew’s Mechanical Stage, on the other hand, was designed to bring to the fore the technical apparatus which in traditional theatre ‘is scrupulously hidden from audience view.” RoseLee Goldberg, *Performance Art: From Futurism to the Present*, Revised and enlarged edition (New York: Harry N. Abrams, Inc., Publishers, 1988), 114. With regards to removing the human element, Oskar Schlemmer wrote: “We can imagine plays whose ‘plots’ consist of nothing more than the pure movement of forms, color, and light. If this movement is to be a mechanical process without human involvement of any sort (except for the man at the control panel), we shall have to have equipment similar to the precision machinery of the perfectly constructed automaton.” Oskar Schlemmer, “Theater (Bühne),” in *The Theater of the Bauhaus*, edited by Walter Gropius, and Arthur S. Wensinger, 81-101 (Baltimore: The Johns Hopkins University Press, 1961), 88.

<sup>57</sup> Oskar Schlemmer, “Man and Art Figure,” in *The Theater of the Bauhaus*, edited by Walter Gropius, and Arthur S. Wensinger, 17-46 (Baltimore: The Johns Hopkins University Press, 1961), 22.

perhaps VR environments).<sup>58</sup> Likewise, Bauhaus theatre practitioner and theorist, Oskar Schlemmer, wrote of the importance of light in creating a playable spectacle or “space-stage.”<sup>59</sup> But without a doubt, the clearest idea predicting the creating a flexible, transformable place for performance comes from the Bauhaus: the Total Theatre.

### **Gropius’ Total Theatre**

In 1927, Walter Gropius created plans for a Total Theatre to be used by Piscator to help alleviate the need for multiple performance spaces and to provide ample room for the creation and implementation of media and machinery in production. This space would accommodate multiple filmic projectors, large hydraulic and mechanical sets (such as the hemisphere used in *Rasputin*), and unique playing spaces (multiple levels and catwalks, etc.), and transform according to the needs of production.<sup>60</sup> Like earlier theorist/practitioner’s ideas of impossibly flexible scenic machines, and sensitive/playable spaces, Gropius himself in his Total Theatre planned to create it as “a great keyboard for light and space, so objective and adaptable in character that it would respond to any imaginable vision of a stage director...”<sup>61</sup> The most relevant aspect of this visionary theatre intended to blend “live” theatre and filmic and other elements was the building’s adaptability.

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<sup>58</sup> “The backcloth, which constitutes the scenery and which we shall call ‘sensitive darkness,’ is formed from myriads of electric lamps of every color and tonality.” Kirby, *Futurist Performance*, 223.

<sup>59</sup> Oskar Schlemmer, in Herbert Bayer, Walter Gropius, and Ise Gropius, *Bauhaus: 1919-1928* (New York: Published for The Museum of Modern Art by Arno Press, 1938. Reprint edition, 1972), 164.

<sup>60</sup> Much of the glitzy spectacle in Broadway Musicals today (which follows from melodrama spectacle), depends on machinery which like Piscator’s giant globe in the Volksbühne must conform to the limits of preexisting theatre buildings. Gropius and Wensinger, *The Theater of the Bauhaus*, 12-14.

<sup>61</sup> Gropius and Wensinger, *The Theater of the Bauhaus*, 12.

In the designs for Gropius's Total Theatre, it is the configuration of the actual place of the theater building which shifts and transforms around the audience, forming three different seating arrangements and various opportunities for projecting and acting in multiple playing spaces. Because the space could transform between a proscenium, thrust, circus or arena, and various environmental space configurations, one gets a sense that the place itself would seem alive, not just with projections but with people both on stage and in the audience. Gropius wrote: "...using a system of spotlights and film projectors, transforming walls and ceiling into moving picture scenes, the whole house would be animated by three-dimensional means... Thus the playhouse itself, made to dissolve into the shifting, illusionary space of the imagination, would become the scene of action itself..."<sup>62</sup> The theatre place would have the sensibility of a kinetic sculpture. Gropius asserts that this flexible building would be "capable of transforming and refreshing the mind by its spatial impact alone."<sup>63</sup> If the project had been build as Gropius and Piscator intended, the audience would be made aware of the unique place of the performance. Through this awareness, such a Total Theatre would have an active double presence of place (characteristic of theatre being both a real and illusionary), and with its impressive ability to transform, the playing space may have become a character in the performance, a participant of the action itself.

Unfortunately, due to financial difficulties which plagued Piscator's creative career, this Total Theatre was never built. Perhaps there is no space today which equals Gropius' vision in terms of creating a transformative place for theatre which would

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<sup>62</sup> Gropius and Wensinger, *The Theater of the Bauhaus*, 12-14.

<sup>63</sup> Gropius and Wensinger, *The Theater of the Bauhaus*, 12.

support both the use of media and the live actor, with the possible exception of Svoboda's *Laterna Magica* and digital performance spaces which are currently primarily composed of digital equipment (and software) added to pre-existing spaces.<sup>64</sup> Although the Total Theatre has not yet been built and I know of no space as physically flexible, the Futurist and Bauhaus ideas of a playable space have been translated to our time and carried out by digital instruments. Their desire for control over a media rich space foreshadows our current media active or intelligent spaces, either set up permanently as in the case of Arizona State University or created temporarily in the case of *Kaspar* at University of Georgia.

### **The Intelligent Stage**

In productions incorporating the use of motion-triggering technology, the actor's movements or sounds can activate digitized media such as music, video, lights, or the movement of wired devices. An intelligent space (or stage) is a reactive performance

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<sup>64</sup> It could be said that the environmental staging experiments of the 1960s created a similar experience of the place as an active element in production. It seems logical that this idea of a place which is also a player will be found in new experiments with Virtual Reality playing spaces (such as CAVEs, See Dave Pape, "The CAVE Virtual Reality System," <http://www.evl.uic.edu/pape/CAVE/> (accessed May, 2006).) which can adapt to the players (and in some cases the audience) as they take the stage. A current day example might be the entertainment rides which combine rollercoaster or hydraulic movement with media or automatons, and may dip into the realm of Digital Theatre *if* they also contain live actors. See Angela Ndalians, "Special Effects, Morphing Magic, and the 1990s Cinema of Attractions," in *Meta Morphing: Visual Transformation and the Culture of Quick-Change*, edited by Vivian Sobchack, 251-271 (Minneapolis and London: University of Minnesota Press, 2000), 265. Christopher Baugh writes that, "the stage must, according to Svoboda, be a kinetic place of performance...Svoboda's over-riding and crucial contribution has been to realize the consequences for scenography and technology of the time-based nature of performance. Actors move, narrative moves, emotions, feelings and actions move, and, of course, meaning and significance move and change within performance. If the scene aspired to be a true machine for and of performance, then it too should be capable of movement." Christopher Baugh, *Theatre, Performance and Technology: The Development of Scenography in the Twentieth Century* (Basingstoke, Hampshire, and New York: Palgrave Macmillan, 2005), 86. Although some architects are starting to plan integrated theatres, including the Rockwell Group (Transparent Theatre), and the Michele Saee group ("Playrites" project).



environment (not at this point a living computer entity).<sup>65</sup> Rob Lovell writes this about the active space he helped set up at ASU with John Mitchell:

The Intelligent Stage is a mediated performance space that responds to the actions of performers as they move. The system's primary sensing occurs through a program called EYES that analyzes video activity to understand what is happening on stage ... Sensing by the computer allows performers to control electronic theatrical elements such as sound, lighting, video, and slides through digitized video, photo-electric switches, contact switches, and many types of activity. Media responses occur through the several controller computers that manipulate the theatrical electronic media.<sup>66</sup>

Two active or intelligent spaces include the HyperMedia Studio at University of California, Los Angeles described by Jeff Burke in his article, "Dynamic Performance Spaces for Theatre Production" and the intelligent stage of Arizona State University's Dance Technology program.<sup>67</sup> Each of these spaces are wired together in such a way that data gathered by sensory devices (which can be a wide array of pressure, light, motion sensors, or video cameras) regarding an actor's movement on stage, is relayed to and translated by computers running software which interpret the signals (frequency, on/off,

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<sup>65</sup> In the words of Robb E. Lovell who helped set up ASU's active space. "Computer intelligence is defined as the ability of a computer to understand, reason, and apply knowledge. This involves sensing the environment, assimilating what is happening within that environment, and responding... The current Intelligent Stage is not really 'intelligent,' since so far it lacks the qualities above-mentioned. It senses the environment, but only reacts according to predefined procedures created for each production... The computer is only intelligent to the degree that it has the ability to participate in performances without explicit direction and assist in production through more intuitive interactions." Robb E. Lovell, "Computer Intelligence in the Theatre," *New Theatre Quarterly* 16, no. 3 (NTQ 63) (August, 2000): 256.

<sup>66</sup> Lovell, "Computer Intelligence in the Theatre," 256.

<sup>67</sup> Jeff Burke, "Dynamic Performance Spaces for Theatre Production," *TD&T* (Winter, 2002); See Johannes Birringer, "The Intelligent Stage," *Performance Research* 6, no. 2 (2001): 122. Although he suggests the idea of turning theatre into an AI body. "Giving a computer the ability to sense and the dexterity to respond to perceived information, allows it to make decisions that can influence and even change the direction of performances." Lovell, "Computer Intelligence in the Theatre," 256.

etc.) which then trigger programmed actions in the playback and projection of video, audio, and other devices.<sup>68</sup>

In an intelligent performance space, actors do more than trigger their own lighting cues and lessen the need for some traditional technical crew. Here actors have begun to interface with the theatre space itself, making the stage seem alive as it actively changes—giving a sense of the theatre itself acting. Thus the place appears to behave as a performing body itself.<sup>69</sup> Noted dance technologist Johannes Birringer remarks that the use of such spaces is changing the way that performers view themselves and their surroundings. He writes,

But the dancers also become ‘sensors,’ adapting to a new spatial awareness of digitally-enhanced space or of an ‘operating system’ which triggers responses and feedback. Dancers appear to be touching invisible partners; they become ghostcatchers themselves and communicate with absent bodies, learning a new psychological and spatial awareness...the term ‘sensing’ gains a dimension reaching beyond the physical and organic understanding of bodily anatomy, reaction and proprioception. Here a new dance...with physical and virtual bodies can begin.<sup>70</sup>

The wired space is, in a way, relating to the body of the actor and engaging in a direct dialogue with that human body. This is a form of interactivity between the human performer and his scene partner, the non-human actor in this case the media-ready

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<sup>68</sup> For a good example of the use of triggered sound files allowing the space to speak through the moving body, see Johannes Birringer, ed., “Dance and Media Technologies,” *PAJ* 70, vol. 24, no. 1 (2001): 88.

<sup>69</sup> “How can computer intelligence best be employed in the theatre? Imagine that a computer is given the ability to control electronically all the media of the stage, and is able to sense and understand in an abstract way what is happening in that space. Furthermore, suppose that the computer is given the ability to reason about what is happening and could construct abstract responses through media. What would it be possible for the computer to do? The theatrical space is the computer’s body, the electronic media the limbs, cameras and microphones used as sensors are the eyes and ears, a speech generation program the mouth, and the CPUs and internal programming are the brains, used to interact with the physical world.” Lovell, “Computer Intelligence in the Theatre,” 255.

<sup>70</sup> Birringer, “The Intelligent Stage,” 122.

space.<sup>71</sup> Also, there is no longer an imposed visual or perceptual barrier between stage and wings (and possibly the house); the theatre space is integrated. The invisible connection of an off-stage human technical crew relaying light cues has, for the most part, been removed and the information travels directly between the actor and the stage-computer interface. The theatre space is laid bare beyond the Brechtian sense, the process is revealed, made part of the spectacle, and the space both backstage and onstage feels integrated (with the actor's actions directly cueing desired scenic events).<sup>72</sup>

In performances in these active spaces, the audience is aware of the added significance of the performer's actions or gestures as they carry double meaning: that of character or illusion, and that of actual control through the actor's gestural agency. The impact of the "live" actor's gestures are strengthened and extended through control of the media and the illusionary place surrounding him. For example Lear could not only curse the storm, but create it in the same gesture. Such an example was demonstrated by UCLA's production of *Macbett*.

Using the interpreted position server, this potential could be explored even in *Macbett*. The clearest example is found in the primary agents of the supernatural, the two witches, who also appear as Lady Macbett and her Lady-in-Waiting. Each witch was to have her own type of control over the environment through her staff. The first conjured thunder and lighting by raising the staff quickly in the air—the quicker and stronger the thrust, the more powerful the lightning strike—while the second witch swirled her staff to create ripples of darkness, color shifts, and the sound of whirling wind proportional to the speed of her staff...Color shifts

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<sup>71</sup> Here interactivity is not being used in the sense of an equal conversation where messages refer back to earlier input, but in the more mechanical sense of actions resulting in specific measurable reactions.

<sup>72</sup> "Brecht wanted theatrical means (such as lighting instruments, musicians, scene changes) to be visible and as simple as possible." Oscar G. Brockett, and Franklin J. Hildy, *History of the Theatre*, Ninth Edition (Boston: Allyn and Bacon, 2003), 436. "There is a point in showing the lighting apparatus openly, as it is one of the means of preventing an unwanted element of illusion; it scarcely disturbs the necessary concentration." Bertolt Brecht, *On Theatre: The Development of an Aesthetic*, Edited and translated by John Willett (New York: Hill and Wang, 1957), 141.

combined with slightly randomized intensity control achieved the lighting effect for the second witch.<sup>73</sup>

This direct interaction with the elements of spectacle not only gave extra control to the actor's bodily gestures, but strengthened the relationship between the actor and her environment, creating a sort of place-character. Jeff Burke writes about the actress playing a witch,

As she learned to punctuate her speech with these gestures in a way that could not be done with traditional cues, a real interplay emerged between how she moved and her control over the environment... Instead, she discovered an unmediated relationship with the world of the play that she could use in her performance... The systems described here illustrate ... a direct interactive relationship between the performer and the onstage world.<sup>74</sup>

I have experienced firsthand the active performance space at Arizona State University's Dance Technology program designed and maintained by John Mitchell. (The configuration included SoftVNS video camera hotspots as motion triggers for Max patches running in the control both which cued and manipulated video and audio to be played back on eight different projectors flexibly positioned on screens and other materials throughout the space.)

From my experiences at SDAT 2004 (Summer Dance and Technology workshop 2004) in ASU's active theatre space I was aware that (while minimal crew members can exist to insure that program patches function properly and of the essential role of computer technologists in setting up the triggers) when the space was active it gave the impression of a direct relationship between the actions of the performer's bodies and the reactions of media in the space, giving the performer a real sense of freedom.

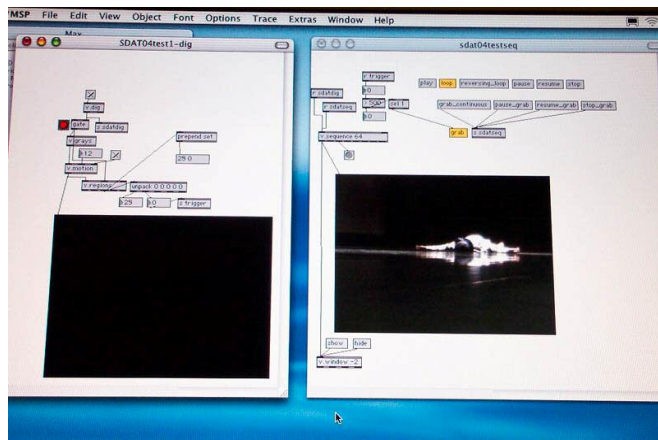
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<sup>73</sup> Burke, "Dynamic Performance Spaces for Theatre Production," 33.

<sup>74</sup> Burke, "Dynamic Performance Spaces for Theatre Production," 34.



Fig. 59: John Mitchell pictured here with Yacov Sharir at SDAT 2004. Photo by author.



Figs. 60, 61, 62, 63: Showing video capture of a dancer on stage; MIDI setup in the Light Control booth; Hotspots drawn over the area where the dancer appears in the video window in SoftVNS; onstage computer setup with projectors, and multiple projection surfaces and projectors. Photos by author.

The environment was lively and one had a sense of playing in and with the space.



*Fig. 64: Playing with the space at SDAT 2004. Photo by author.*

Through the open undisguised presence of technology, the performer's potential control over the environment, and the general lack of an onstage/backstage mentality, the interactivity seemed to bridge any remnants of a Wagnerian mystic chasm (or separation of spectacle from the hands of actors who are also separated from the audience by the hidden mechanisms needed to create this spectacle), transferring the magic of spectacle and illusion into the hands of the performer. Birringer writes:

For many of us, the proscenium, dance studio, and conventional production processes are clearly inadequate. New dance, involving technologies and interactive designs from the conceptual starting- point, needs a different environment. If technology has decisively challenged bodily boundaries and spatial realities, profoundly affecting the relations between humans and machines, the new convergences between dance and technology reflect back on the question of dance and its physical— sensory relationship to the world: its immediate, phenomenological embodiedness to lived experience in one place.<sup>75</sup>

I believe the same principal applies to Digital Theatre created on Intelligent Stages.

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<sup>75</sup> Birringer, "The Intelligent Stage," 121.

These active spaces are a significant step to creating the imaginary reality of holographic playing spaces envisioned by Gene Rodenberry and discussed by Janet H. Murray, author of *Hamlet on the Hollodeck*.<sup>76</sup> The significance of the playing space in this present form rests in the interplay between performer and space and the developing interconnection between the body of the human performer and his/her physical environment or place. Perhaps the most stunning image-based metaphor that Murray brings to bear in discussing entertainment and interactive Virtual Reality environments (which will be discussed in greater detail in the next chapter on place), is that of the familiar children's tale of *Harold and the Purple Crayon* (in which the young protagonist uses a purple crayon to draw in the details of his once empty environment including the landscape, stairs, doors, and the moon).<sup>77</sup> In a sense, by allowing the performer to control their physical environment (through video and sound), MIDI-triggering is giving the performer the tools to create a landscape or environment through their gestures where before there had only been their body and empty space. As the actor begins to shape the place around them, they are negotiating their physical/spatial limits, from which there is a sense of agency. This is a powerful body, one controlling its media environment, its place in the hyper-real world. However, thematically the next work shows the controlling forces of media (and society) on the body of the main protagonist.

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<sup>76</sup> Janet H. Murray, *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* (Cambridge, Massachusetts: The MIT Press, 2001).

<sup>77</sup> Crockett Johnson, *Harold and the Purple Crayon* (New York: Harper Collins, 1955, reprint edition, 1996).

## ***Kaspar***

When motion-triggering and motion-sensing are integrated with live performers in production, both “live” and media elements become essential and interdependent. The media (video, audio, etc.) does not play unless the human body is there to tell it to do so.<sup>78</sup> This creates a call and response between a person and a digital device (or array of devices). In the University of Georgia’s production of *Kaspar* (1999) directed by Dr. David Saltz, the main character Kaspar is being forcibly socialized using positive stimulus and negative feedback which is triggered by the actor on stage.<sup>79</sup> When the actor moves the rocking chair, rearranges furniture, or opens dresser drawers, both the actor and his character are triggering a mediated action such as loud sounds and instructional video chosen by the character’s trainers/captors. Dr. Saltz describes the setup:

We selected specific sensors that could detect when each set piece was handled in precisely the way that Handke’s stage directions specify. For example, we used an accelerometer to sense the movements of the rocking

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<sup>78</sup> “For example, we used an accelerometer to sense the movements of the rocking chair, and pressure-sensitive resistors to detect when Kaspar pressed on the cushions of the sofa. These sensors fed directly into a computer that played the appropriate audio sequences when, and only when, Kaspar was interacting ‘appropriately.’ For example, the instant Kaspar rocked the rocking chair, the audience heard the corresponding text through the speakers; the instant he stopped, the words stopped. In this way, the interactive technology transformed the set into a large Skinner box that conditioned Kaspar by automatically reinforcing all and only correct behavior.” Saltz, “Live Media,” 115-117.

<sup>79</sup> “The IPL production expanded on the notion of technologized space implicit in Handke’s text. A pair of Macintosh computers generated sounds and projected images, controlled LED lights planted in the actors’ costumes, and tracked sensors built into the furniture.” David Z. Saltz, “Live Media: Interactive Technology and Theatre,” *Theatre Topics* 11, no. 2 (2001), 114. “Similarly, during the scene in which the prompters first train Kaspar to speak, we used Kaspar’s own voice to trigger the media. Kaspar gradually discovered that he could turn the prompters’ voices off simply by speaking and that the voices would resume as soon as he silenced himself. This mechanism provided what behavioral psychologists call “negative reinforcement”: the desired behavior (Kaspar’s speech) halted a negative stimulus (the prompters’ relentless torrent of language). As soon as Kaspar gained confidence in this convention and began to enjoy control over his environment, the prompters reversed the rules and used Kaspar’s voice as an on switch instead: the prompters’ voices began when Kaspar started talking and stopped when he stopped. By linking the prompters’ speech to the technology in this way, the production intensified what Handke calls the prompters’ ‘speech torture.’” Saltz, “Live Media,” 117.



chair and the pressure-sensitive resistors to detect when Kaspar pressed on the cushions of the sofa. These sensors fed directly into a computer that played the appropriate audio sequences when, and only when, Kaspar was interacting ‘appropriately.’ For example, the instant Kaspar rocked the rocking chair, we heard the corresponding text through the speakers; the instant he stopped, the words stopped. In this way, the interactive technology transformed the set into a large Skinner box that conditioned Kaspar by automatically reinforcing all and only correct behavior.<sup>80</sup>

The process of socialization is complete at the end of the production. This is depicted visually though the orderly shapes created by Kaspar’s conforming to the proscribed tasks. “Eventually, after Kaspar arranged the furniture in accordance with the prompters’ specifications, each cable extended straight upward, producing a strictly ordered pattern of parallel lines.”<sup>81</sup>

This production clearly demonstrates the sensitivity of the acting space to the touch of the actor, the direct result of his body and actions in the playing space (primarily) independent of external cuing by backstage technicians. According to Saltz, because he was interested in the interaction between actor, set, and off-stage characters the relationship between cause and effect was initially made clear for the audience and developed a level of sophistication as the play progressed.<sup>82</sup>

Because “the sensors embedded in the set pieces allow the live performer to interact directly with the media” the actor’s actions on stage are both theatrical and

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<sup>80</sup> David Z. Saltz, “*Kaspar*.” Available from the Digital Performance Archive: [http://dpa.ntu.ac.uk/dpa\\_site/](http://dpa.ntu.ac.uk/dpa_site/) (Accessed 13 October, 2002).

<sup>81</sup> Saltz, “Live Media,” 117.

<sup>82</sup> “‘The paradox of the interactor’: (is that) the more rigorously the performer has rehearsed with the technology, the more clearly the audience will recognize the ability of the environment to respond dynamically and spontaneously to the performer's actions. The performer must teach the audience to understand the conventions that define the interactions by starting slowly with the simplest interactions (e.g., ‘the sound plays only while I am rocking this chair’) before moving on to more complex interactions.” Saltz, “Live Media,” 117-118.

actual, the wired space is creating an acting arena which is both illusion and reality.<sup>83</sup>

The man-machine interaction takes place in the “theatrical present.”<sup>84</sup> To take this idea a step further to clarify the direct connection between actor’s body and media, imagine the implications if the response to moving a sensor-triggering item was not a simple voice response such as “a sentence can’t hurt you yet,” but an electric shock; clearly both the actor and the character would experience the result. The duality of actor/character (a line crossed in Roman theatrical entertainments including actual sexual or violent actions, or perhaps 1960s experimental theatre and performance art<sup>85</sup>) is not invoked here for the sense of morbidity or Sadian sensationalism, but to point out the way that motion-triggering makes enacted gestures into actions and clarifies the definite nature of the reality of the actor/character’s actions and the actor/place interaction.

In this particular production’s case, though the actor truly stimulates the response of all physical impulses and changes on the stage environment, the message communicated in this use of technology shows the human protagonist’s body as subject to his wired environment. This is a valuable message for audiences to observe. It is a direct confrontation between the “live” body and the hyper-controlled, hyperreal digital

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<sup>83</sup> Saltz, “*Kaspar*,” from the Digital Performance Archive.

<sup>84</sup> “Handke’s play depicts the indoctrination of an unsocialized adult into society. The play radically abstracts the narrative, stripping *Kaspar*’s story of all historical specificity. Indeed, the play is devoid of all realistic context; it transpires entirely in the theatrical present, with no hint of a past or a future. As Handke observes in the play’s introduction, ‘The play *Kaspar* does not show how it REALLY IS or REALLY WAS with *Kaspar Hauser*. It shows what IS POSSIBLE with someone.’” Saltz, “Live Media,” 114.

<sup>85</sup> Roman Slaves occasionally stood in for executions in theatrical entertainments. “Heliogabulus (ruled 218-222 C.E.) ordered sexual acts to be performed realistically...numerous beatings, fights, deaths, and other forms of violence...” Brockett and Hildy, *History of the Theatre*, Ninth Edition, 51. The Living Theatre or Chris Burns come to mind as very bodily performances. Richard Schechner, *Environmental Theater* (New York: Applause, 1973), 37-39.; and Rebecca Schneider, *The Explicit Body in Performance* (London and New York: Routledge, 1997), 32-35.

social environment. Although the protagonist conforms, it is the duality of “live” body and mediated environment which gives us pause to consider our own cultural situation, thus the body of the actor enacting the socialization of Kaspar is rebellious by providing insight into potential technological oppression.<sup>86</sup>

While one could possibly argue that the actor on the average stage making gestures is “triggering” events which change the space through visual cues called by a stage manager, when the human go betweens (of stage manager or media operators) are removed, the performer has greater flexibility and control over the media and the sense of the performance’s outcome. Rather than being restricted to cues such as go and stop delayed by human relays, the performer can control the presence, volume/intensity, and flow of media in real-time. Kaspar is both a demonstration of the actor’s agency—a striking example of the flexibility of the individual performer to control the space around them, and the fictional place’s control over the character. In *Kaspar*, the stage temporarily becomes an active space—the instrument of the fictional instruction—it becomes what it is enacting, a training facility and thus the performance space becomes or makes actual its illusionary place.

Both Arizona’s intelligent space and the temporarily wired interactive playing space created for *Kaspar* show how one performance space can respond quickly and reflexively to the human actor’s body to create a sense of collaboration in a wired atmosphere, creating a current interpretation of ideas found in Total Theatre. Through their very design (and ability) these performance venues unique *places* at the same time as they are *spaces* in which human performers and computer media interact. Next I will

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<sup>86</sup> “The technologically rich, intelligent environment of the stage manifested the prompters’ all-encompassing, anonymous, inhuman control over *Kaspar*.” Saltz, “Live Media,” 114.

be briefly introducing the idea of performance locations linked or playing spaces expanded by digital media.

## **Linked Spaces/Places**

In the past environmental theatre staging have utilized multiple venues for a single performance. But through the use of digital technologies, separate spaces within one general place can be linked together to create an expanded playing space. In the next chapter I will be discussing the idea of multiple places existing at once “on stage,” but for now I would like to lead into that discussion with the idea of different rooms or spaces in one place linked via digital technology. In *Beckett Space* a gallery is the site of multiple performances, and in *InterPlay* (which will be discussed in much greater detail in the next chapter) multiple rooms were broadcast into an Internet venue for remote viewing and projected for a local audience.

### ***Beckett Space***

At the State University of New York at Stony Brook, Dr. David Saltz staged multiple small theatrical events simultaneously in one general area. This space, *Beckett Space*, was filled with many short works by Beckett, including: *Ohio Impromptu*; *Eh, Joe*; *Not I*; *Rockaby*; *Play*; *Come and Go*; and *Breath and Quad*. Each scene was staged in its own unique area with accompanying technologies which fit the piece.

The digital technologies used gave insight to the Beckett texts and carried out actions in an efficient interpretation of the original ideas.<sup>87</sup> *Rockaby*, staged in a relatively open space (within the larger space), used MIDI triggers in the set pieces such

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<sup>87</sup> David Z. Saltz, “Beckett Space,” available from the Digital Performance Archive: [http://dpa.ntu.ac.uk/dpa\\_search/result.php3?Project=197](http://dpa.ntu.ac.uk/dpa_search/result.php3?Project=197) (accessed 13 October, 2002).

as the rocking chair to activate voiceovers, giving the rocking a sense of fate (external control, futility).<sup>88</sup>

However, what is most intriguing is the way that *Beckett Space* challenges the notion of playing space or the theatre place. The work appears perhaps closer in layout to being an interactive installation, than a traditional theatre house/stage configuration, or one-room staging. In the tradition of environmental theatre, the audience and performers are somewhat integrated in the space. However the barriers and individual viewing rooms replicate the feel of a gallery—one filled with living artworks. The space gives the sense of interactivity and the importance of the audience's presence in the viewing experience. Unlike even the extraordinarily inventive and environmental pieces which lead audience from room to room to view scenes or pieces of the total event, in *Beckett Space* the audience wanders un-chaperoned at their own pace, as in a gallery, and each piece exists independently as a separate performance experience.<sup>89</sup> It was as if one were visiting an exhibition of Beckett's performed artworks, the audience may focus on individual pieces, but also comes away with a sense of the whole oeuvre.

Though there are definite places (rooms), sectioned off for viewing individual pieces (as in *Ohio Impromptu*), the assembled pieces collectively combine to become the *Beckett Space*. What is challenging and provocative about the work is that it defies being labeled as either theatre or gallery exhibition. The place which allows the performative

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<sup>88</sup> David Z. Saltz, "Beckett's Cyborgs: Technology and the Beckettian Text," in *Theatre in Cyberspace: Issues of Teaching, Acting, and Directing*, edited by Stephen A. Schrum (New York: Peter Lang Publishing, 1999), 273-290.

<sup>89</sup> For example, *Tony n' Tina's Wedding*, which opened on February 14, 1988, in which audience members are treated as guests at the wedding by the improvisational cast. Nancy Cassaro (and the Artificial Intelligence troupe), *Tony n' Tina's Wedding* (New York and Hollywood: Samuel French, Inc., 1999).

space to exist is one single enclosed building or room. This place for action including multiple enclosed and open performance stations (each room could be considered a place) and passageways for audience traffic, becomes a space as the audience moves through it.<sup>90</sup> One single room (place) is the performance *Ohio Impromptu*, but the whole experience, the total place in action amounts to *Beckett Space*. Contrary to Saltz's use of the word 'space' in the event's title, I would suggest that the viewers wondering through *Beckett Space* made it a space (through their motion), but in general it was in fact one *place* (the gallery/theatre exhibit) with multiple *spaces* (rooms) within it.

### ***Interplay***

Another example of connecting spaces into a larger work existing in many areas of the same general location at once, is the local staging of *Interplay*. In *Interplay: Intransitive Senses* (2003) at the University of Utah, Jimmy and Beth Miklavcic staged of several simultaneous performance actions in multiple performance rooms which were linked and mixed using video conferencing.<sup>91</sup> In one room there was a tea-party installation, in another a series of musicians, and in another was a performer reciting text. The audience could move from place to place, viewing various aspects of the total performance which was broadcast online and viewed by a local and online audience.

Clearly this type of work, even at the performance site in one building in Utah, complicates our ideas of a single performance place and where we locate the live, co-present audience/performer relationship essential to theatre. In some rooms performers

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<sup>90</sup> According to de Certeau: "A place is thus an instantaneous configuration of positions. It implies an indication of stability. . . A space exists when one takes into consideration vectors of direction, velocities, and time variables. Thus space is composed of intersections of mobile elements. . . In short, *space is a practiced place.*" De Certeau, *The Practice of Everyday Life*, 117.

<sup>91</sup> See Jimmy Miklavcic, and Beth Miklavcic, "Another Language," <http://www.anotherlanguage.org/> (accessed February, 2003).

were co-present with audience members, but because the audience was free to roam the building, there may have been times where the only people viewing some of the performers was through the video feed online or in the main auditorium where the multiple video feeds were projected (and often mixed). If one views the whole building as one performance place (even if walls remain in between performers and audience<sup>92</sup>), or if one considers that audience need only be co-present with performers in one or more of the limbs of the performance, then the total event is Digital Theatre. The question of multiple spaces and place will be picked up again as we move on in complexity in the next chapter which will introduce the reader to performances which occur across multiple places.<sup>93</sup>

The digitally enabled flexibility of place seems almost counter to the nature of place, which is defined not by flow but fixity. However, these examples of portable staging in indoor and outdoor locations (either for improvisation, or the repurposing of public places), active performance spaces such as Intelligent Stages which respond directly to the actor's body, or multiple spaces (rooms) in one place linked into one composite performance space, demonstrate a lively interchange happening between space and place when digital technology is involved. What is exciting about digital technology's effect on theatre places (both found, active, and linked) is that real places and illusionary places begin to blend and the place of performance begins to reassert itself in the process.

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<sup>92</sup> Which I'm not sure I do, as it seems performers and audiences should be in an unbroken environment where air, sound, and visual contact is unobstructed by solid barriers.

<sup>93</sup> If intelligent spaces were actually intelligent (using Artificial Intelligence to respond to action 'on stage') or resemble AI through its interactivity, then it could be considered a data body (given the nature as a whole data system). In this case this data body (the performance environment) could be said not only to be the other of the "live" digitally enabled human performer, but this actor would be performing inside the body of the digital other.

## Chapter 7: Performance and Community in Cyberplace

*When people interact, when minds interpenetrate, a proliferation of ideas are generated. When sensibilities from diverse cultures from all parts of the globe interweave, collaborate, conjoin, and become restructured, new cultural forms emerge, new potentials for meaning and experience are brought forth. This is the scope and ambition of networking. This is to speak of superconnectivity, production of a multilayered culture...What this offers in effect is the opportunity for us not only to construct new realities but to enter into the realities of others, the interpenetration of parallel universes of discourse.<sup>1</sup> ~Roy Ascott*

In this and in the following chapter I will be discussing Digital Theatre performances which utilize videoconferencing or web broadcast technology to expand either the playing space (the stage) or audience's place (the auditorium or house), allowing for distant performers and audience members to experience the performance in real-time along with co-present actors and audiences. In both cases, as place expands, so does community.

In this chapter I will be examining distant performers sharing a playing space or multi-layered place, thus forming community through their performance; whereas, in the next chapter I will be discussing online audiences which begin to participate in Digital Theatre and thus become part of the creative community. Because these two ideas are so closely tied through the use of shared technology, there may be overlap between terminology and historical background, but the shared information will be used in service of exploring either digital facilitation of performers or audiences.

I will be focusing on performance examples which demonstrate the linking of various performers in multiple locations, and the overlap of community and place(s) in

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<sup>1</sup> Roy Ascott, *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness* (Berkeley: University California Press, 2003), 223.



online performance. By linking performers in distant places, not only is the group of performers potentially expanded (and thus so is the playing space), but the playing space becomes a place-rich or multi-layered place. In a sense, these multiple site or multi-site performances are actualizing the multi-layered place suggested in *Alladeen*'s illusionary place depiction of cyberspace. Through digital media, settings can shift in a moment, distant places are brought together, and new ways of looking at place are possible.

This is perhaps the most interesting area of Digital Theatre, as evidenced by the great number of people experimenting with distance mediated performances.<sup>2</sup> This is because it can include all of the other concepts of Digital Theatre, addressed in earlier chapters, and challenges the fundamental nature of our perceptions of "live" theatre (existing in one place before one gathered audience) while expanding theatre's reach and building extended performance communities. After establishing a limited historical and theoretical base, I will be briefly discussing two to three performance examples including *FIRT(ive) Encounter*, *UBU Project*, and *World Wide Simultaneous Dance*, before addressing the ArtGrid online performance community in which I have participated for the past four years. Much of my discussion will focus on the ArtGrid example of building online performance community, through which I hope to show the potential of digital collaborations to include individuals in different locations and cultures in a sense of extended community.

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<sup>2</sup> For example: The Builders Association/Motiroti, *Alladeen*, directed by Marianne Weems, Brooklyn Academy of Music Harvey Theater, New York, NY, 5 December, 2003. Galen Scorer, "Network Touch," <http://www.galen.ca/art/networktouch/index.php>. Laura Knott, "World Wide Simultaneous Dance: Dancing the Connection between 'Cyberplace' and the Global Landscape," *Leonardo* 34, no. 1 (2001): 11-16. Jimmy and Beth Miklavcic, "ArtGrid," <http://artgrid.chpc.utah.edu/>. Jimmy and Beth Miklavcic, "Another Language," website includes information regarding all the *InterPlay* series of performances: *Intransitive Senses*, *Hallucinations*, *Loose Minds in a Box*, *Dancing on the Banks of Packet Creek*, and *Nel Tempo di Sogno*, <http://www.anotherlanguage.org/>.

## ***On Community/Place***

Today, theatre and performance are on the edge of a whole new type of community; a community meeting not in one place, but several. Donald G. Janelle and David C. Hodge write, “The information age is bringing about the end of geographical distance as a significant barrier of human interaction.”<sup>3</sup> Today it seems as if the world is growing smaller, as distant and distinct places are coming together and overlapping.<sup>4</sup> Given that the Digital Theatre performances and telematic artworks I will discuss dwell in the intersection between places, forming communities, it becomes important to understand the significance of place.

Why is place such an essential aspect of our understanding of existence both in the current moment and in the *longue durée*, including generational perspective? Place is the *where*, the *location*, the physical *environment* in which human existence plays out. Place is deeply embedded in the human psyche.<sup>5</sup> Place is the location of our experiences of birth, life, and death; the setting of human drama. In her book, *Lure of the Local* in which she explores place-specific art, Lucy Lippard writes about the pull of place. “Place is latitudinal and longitudinal within the map of a person’s life. It is temporal and spatial,

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<sup>3</sup> Donald G. Janelle, and David C. Hodge, National Center for Geographic Information & Analysis, *Information, Place, and Cyberspace: Issues in Accessibility (Advances in Spatial Science)* (New York: Springer-Verlag Berlin Heidelberg, 2000), 1.

<sup>4</sup> Author Thomas L. Friedman would argue that “globalization” is a broader, more profound phenomenon than we might think. “It is not simply about how governments, business, and people communicate, not just about how organizations interact, but is about the emergence of completely new social, political, and business models.” Thomas L. Friedman, *The World is Flat: A Brief History of the Twenty-First Century* (New York: Farrar, Straus and Giroux, 2005), 48; See Homi K. Bhabha, *The Location of Culture* (London: Routledge, 1994), 2.

<sup>5</sup> “The search for homeplace is the mythical search for the axis mundi, for a center, for some place to stand, for something to hang on to.” Lucy Lippard, *The Lure of the Local: Senses of Place in a Multicentered Society* (New York: The New Press, 1997), 27.

personal and political.”<sup>6</sup> As many scholars have noted, place (and landscape) has the ability to “give shape to and locate human communities, by providing cultural memory and a sense of belonging.”<sup>7</sup> Each of us forms relationships to the place where we were raised, reacts to the physical circumstances which surround us, and envisions alternate and often imaginary landscapes in which we might flourish or explore the unknown.

I’d like to suggest that the current flurry of scholarly interest in the terminology of place is a response to globalization—world markets, decreased nationalism or the permeability of boundaries and borders, the migration and mobility of bodies, and the interchange of culture and ideas through new technologies.<sup>8</sup>

We are living in a globalizing world in which media saturation, travel and information exchange are at once ‘shrinking the globe’ thus making greater cultural

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<sup>6</sup> Lippard, *The Lure of the Local*, 7.

<sup>7</sup> “Landscape has provided a basis for locating new communities of nationhood in a kind of collective cultural memory of belonging. Monuments and landforms have come to be seen to give history and shape to human communities, nations included.” Mike Pearson, and Michael Shanks, *Theatre/Archaeology* (London and New York: Routledge, 2001), 39. This is Pearson and Shanks’ rephrasing of statement by Thomas 1994:143, cited earlier in their book on page 11, a sentiment shared by Lucy R. Lippard in *The Lure of the Local*.

<sup>8</sup> “Toward the end of the second millennium of the Christian Era several events of historical significance have transformed the social landscape of human life. A technological revolution, centered around information technologies, is reshaping, at accelerated pace, the material basis of society. Economies throughout the world have become globally interdependent, introducing a new form of relationship between economy, state, and society, in a system of variable geometry.” Manuel Castells, *The Rise of the Network Society. The Information Age: Economy, Society, and Culture 1* (Malden and Oxford: Blackwell Publishers, 1996), 1; Heather Eaton, and Lois Ann Lorentzen, eds., *Ecofeminism and Globalization: Exploring Culture, Context, and Religion* (Lanham: Rowman and Littlefield Publishers, Inc., 2003), 26; Yan Ma, “Chinese Online Presence: Tiananmen Square and Beyond,” in *Technology and Resistance: Digital Communications and New Coalitions Around the World*, edited by Ann De Vaney, Stephen Gance, and Yan Ma, 139-151 (New York: Peter Lang, 2000), 144. “...boiled down to its simplest determinations, globalization is about the sociospatial relations between billions of individuals.” David Harvey, *Spaces of Hope* (Berkeley and Los Angeles: University of California Press, 2000), 16. According to authors, Heather Eaton and Lois Ann Lorentzen: “Globalization...refers to the shrinking of space and the vast intersecting of culture, technologies, religions, communications, and ideas—the ‘global village.’ Second, globalization, or the global economy, is equated with external market liberalization and a reliance on the equitability of market forces. Often these two usages are intertwined and confused.” Heather Eaton, and Lois Ann Lorentzen, eds. *Ecofeminism and Globalization: Exploring Culture, Context, and Religion* (Lanham: Rowman and Littlefield Publishers, Inc., 2003), 24.

exchange possible, and at the same time overwhelming individuals with the glut of information and trade.<sup>9</sup> Within the span of a single lifetime the experience of global travel has become possible for millions. Neil Postman notes that “until the 1840s, information could move only as fast as a human being could carry it; to be precise, only as fast as a train could travel, which, to be even more precise, meant about thirty-five miles per hour.”<sup>10</sup> The tremendous rate of change has had an impact upon how we conceive place and our relative place within the world. In his book, *The Radical in Performance*, Baz Kershaw writes about this sense of the world shrinking in terms of the “compression of global space and time” due to instant communication.<sup>11</sup>

Author Peter Singer reminds us of the change in relative scale with which we consider the world around us in terms of geographical places.

For most of the eons of human existence, people living only short distances apart might as well, for all the difference they made to each other’s lives, been living in separate worlds. A river, a mountain range, a stretch of forest or desert, a sea—these were enough to cut people off from each other. Over the past few centuries the isolation has dwindled...Now people living on opposite sides of the earth are linked in ways previously unimaginable.<sup>12</sup>

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<sup>9</sup> Janelle, and Hodge, *Information, Place, and Cyberspace*, 1. “Many places throughout the world have been turned into competing landscapes, places available for all those who wish to look, while driving along the open road, walking, climbing, photographing, sitting, sailing, watching TV and so on. Places have indeed been physically and semiotically designed for landscape rather than land.” Phil MacNaghten, and John Urry, “Bodies of Nature: Introduction,” in *Bodies of Nature*, edited by Phil MacNaghten and John Urry, 1-11 (London: Sage Publications, Ltd., 2001), 6.

<sup>10</sup> Neil Postman, *Amusing Ourselves to Death: Public Discourse in the Age of Show Business* (New York: Penguin Books, 1985), 64.

<sup>11</sup> This “serves both to underline the finiteness of ‘our’ world – gesturing towards the dream of a ‘global community’ – and to highlight the dangers flowing in the wake of technological proliferation.” Baz Kershaw, *The Radical in Performance: Between Brecht and Baudrillard*, (London: Routledge, 1999), 193.

<sup>12</sup> Peter Singer, *One World: The Ethics of Globalization* (New Haven and London: Yale University Press, 2002), 10.

It is possible that today, the idea of *place* becomes a final solid or tangible retreat from information flux.<sup>13</sup> Through technologized globalization, place is at once perceptually expanded, yet it remains a solid given in human life. In the spirit of excitement of discovering new places we reach out to see images of our distant neighbors, and at the same time we withdraw to familiar places which offer that fixity or solidity, of stability, of soil, memory, and native culture. We do both of these things at once, stretching out for the “other,” while claiming our place in the world by identifying with our origins or native soil as “placed persons.”<sup>14</sup> Thus, place is doubly on our minds. On one hand place is stretched thin (almost to the point non-existence as is expressed in description of cyber place-less-ness or increased artistic and scholarly interest in the term “space”<sup>15</sup>) through technologized accessibility; on the other, place remains as fundamental to our embodied existence as gravity.

Perhaps more than any other digital technology, the Internet has been shaping the new cultural landscape, and our perception of place in this bold new globalizing, or neo-global world. Recall that the Internet, often referred to as cyberspace, is defined by Alice Rayner, as placeless.<sup>16</sup> Because each experience online is shifting and directly

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<sup>13</sup> “We are living today on a threshold between a history of alienated displacement from and longing for home and the possibility of a multicentered society that understands the reciprocal relationship between the two...And in the case of a restless, multitradeational people, even as the power of place is diminished and often lost, it continues—as an absence—to define culture and identity.” Lippard, *The Lure of the Local*, 20.

<sup>14</sup> “A self described ‘placed person’ is someone belonging to an area, emotionally or physically tied to their homeland, increasingly rare today.” Lippard, *The Lure of the Local*, 33.

<sup>15</sup> “In contemporary criticism, the word ‘space’ represents the desentimentalized (some would say dehumanized) postmodern version of place.” Lippard, *The Lure of the Local*, 8-9.

<sup>16</sup> Cyberspace is actually composed of other digital environments including VR experiences. “One speaks of worlds, rooms, domains, fields, environments, architectures: words that help to conceive computational reality in the familiar terms for definable spaces. Such spatial terms, promising enclosures, offer the comfort of boundaries within...cyberspace. They serve to allay the vertigo of spacelessness.

determined by the users' actions, it follows that an imaged landscape (constructed as a metaphor for information exchange) is based on motion and lacks geographical "stability."<sup>17</sup> Given her description, it makes sense therefore, that it is called *cyber-space*, rather than *cyber-place*.<sup>18</sup> However, I would suggest that the Internet directly shapes our experience of place as expanded by technology and creates a sense of perceived place.<sup>19</sup> Though data is transitory, the effect of a meeting of people in a cumulative place is real. A cyberspace meeting-place composed of multiple video transmissions of different inhabited places may have a cumulative sense of place.<sup>20</sup>

Members of the Downstream performance art company even go so far as to suggest that,

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...Roads, highways, travelogues, and trips appear as the organizing images for cyberspace sites that in themselves have no place...Digital technology approximates a mindscape of neural potentials It is a landscape in transit passing data in the form of images (sounds signs sensations) but needing no placement, residing no where, not even an 'elsewhere.' In adapting to digital technology one needs to conceive of movement itself as a landscape that has neither land nor perspective." (Or, I would suggest, that contrarily, it is composed of all perspective, ego, the site of the constantly shifting I.) Rayner, "E-Scapes," 351.

<sup>17</sup> "The place of these technologies' digital spaces — often referred to as a cyberspace that runs parallel to embodied reality — is really one of language and code. No user's body can enter this metaphoric space. Visually oriented contemporary culture, however, generally equates seeing with knowing..." Ken Hillis, "Human.Language.Machine," in *Places Through the Body*, edited by Heidi J. Nast, and Steve Pile, 52-71(London and New York: Routledge, 1998), 53. "People cannot 'see' into, much less physically enter, the conduits and data flows..." Hillis, "Human.Language Machine," 61. Recall that in *The Practice of Everyday Life*, de Certeau said, "A place is thus an instantaneous configuration of positions. It implies an indication of stability...A space exists when one takes into consideration vectors of direction, velocities, and time variables. Thus space is composed of intersections of mobile elements...In short, *space is a practiced place*." Michel de Certeau, *The Practice of Everyday Life*, Translated by Steven F. Rendall, (Berkeley: University of California Press, 2002), 117.

<sup>18</sup> Laura Knott, "World Wide Simultaneous Dance: Dancing the Connection between 'Cyberplace' and the Global Landscape," *Leonardo*, 34.1 (2001): 11.

<sup>19</sup> The physical interface in which one begins their search is solid (a computer terminal, usually in an office or other room) and in many communication venues or software interfaces, graphical depictions of place give a sense of animated place. Such as the three dimensional chat rooms like Activeworlds Inc. <http://www.activeworlds.com/community/index.asp> (accessed May, 2006).

<sup>20</sup> "A lived-in landscape becomes a place, which implies intimacy; a once-lived-in landscape can be a place...place is where we stand to look around at landscape." Lippard, *The Lure of the Local*, 7-8.

in a sense, the technology not only frames the actor's body and the performance space, but actually creates the space.<sup>21</sup>

Community is that which joins the individual and society. Anthony P. Cohen writes, "Community is that entity to which one belongs, greater than kinship but more immediately than the abstraction we call 'society.' It is the arena in which people acquire their most fundamental and most substantial experience of social life outside the confines of the home."<sup>22</sup> Community is defined as either based on "common needs, interests, activities, or desires" or based on "a specific population, place or location."<sup>23</sup> However, technology conflates the two criteria as places meet forming a new shared location in which open exchange of ideas creates shared interest and content. Scholar Linda Stoneall writes, "Community as a concept has a definite center without a well-defined periphery..." the core which is centered around people "interacting in specific space and time."<sup>24</sup> To my mind, community is a perceived connection between individuals living in a group, interacting regularly, or interfacing for mutual gain or benefit of connection.

People make up a community but, what is the glue that binds separate individuals into a community? There may be as many answers as there are situations in and around

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<sup>21</sup> Jason Farman, "Streaming the Performer's Body: An Interview with Downstream," *Extensions* 2 (2005): 98.

<sup>22</sup> Anthony P. Cohen, *The Symbolic Construction of Community* (London: Tavistock Publications, 1985), 15.

<sup>23</sup> Tobin Nellhaus, and Susan C. Haedicke, "Introduction," in *Performing Democracy: International Perspectives on Urban Community-Based Performance* (Ann Arbor: The University of Michigan Press, 2001), 12.

<sup>24</sup> Linda Stoneall, *County Life, City Life: Five Theories of Community* (New York: Praeger, 1983), 5.

which communities form.<sup>25</sup> As Anthony Cohen points out in *The Symbolic Construction of Community*, individuals have always created communities in order to shape and maintain their sense of belonging and self-worth. Community has been called a “god word”<sup>26</sup> or “warmly persuasive word”<sup>27</sup> for its ability to call forth unified behavior when invoked. It is all encompassing term, with no exact center and therefore has diffuse meaning—but it often has a real, tangible effect. By invoking the word community, it is often materialized, and thus has the characteristics of a speech-act.<sup>28</sup>

When community is invoked, it can be a powerful organizing term, a call to action, used to rally participation around collective ideals,<sup>29</sup> teach values or lessons,<sup>30</sup>

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<sup>25</sup> In my own life I have experienced various types of communities, both temporary and long-term; centered around activities, shared needs, and location or proximity. These my involvement in these communities ranged from participation and observation of the formation and growth of a twenty year old community choir, volunteer coordination as well as organizational and artistic participation in a regional arts center, local ecological efforts, experience with multiple family communities and self-sufficient communes, grass-roots and international peace organizations. I have experienced the camaraderie formed in education, the temporary community formed between players in casts, between conference panelists, travelers on guided tours. There is also a sense of a larger community present in civic, national and international events from town gatherings like county fairs, to large scale events which impact and bring together the global community—as evidenced by public reaction to threat on a global or catastrophic scale such as 9/11, and need for the international community to donate aid to the tsunamis and Hurricane victims in places like New Orleans (which demonstrated Global Warming’s impact of humans on place and place on humans).

<sup>26</sup> “... a power invoked to provide symbolic unity in the face of real differences within the group.” Bruce McConachie, “Approaching the ‘Structure of Feeling’ in Grassroots Theater,” in *Performing Democracy: International Perspectives on Urban Community-Based Performance*, Susan C. Haedicke, and Tobin Nellhaus, eds. 29-57 (Ann Arbor: The University of Michigan Press, 2001), 37.

<sup>27</sup> Baz Kershaw, *The Radical in Performance: Between Brecht and Baudrillard*. (London and New York: Routledge, 1999), 191.

<sup>28</sup> “In one sense it is limited in space and time to the moment of enunciation, but in another sense it is implicated in the iterative structures of a language system, which perpetuates itself through repetition of previous enunciations, thus establishing reliable and recognizable categories of meaning.” Ellen Mortensen, *Touching Thought: Ontology and Sexual Difference* (Lanham: Lexington Books, 2002), 24.

<sup>29</sup> “Community” can be invoked around collective ideals such as from both sides of topical issues such as war or abortion.

<sup>30</sup> “Community” can be invoked to instruct, such as in the case of youth groups, church, or community education or outreach.



honor historical or significant places or persons valued by the community, or mark a specific event.<sup>31</sup>

Community is often referred to in terms of commonality of place (physical geographical location) or *gemeinschaft*.<sup>32</sup> Another way to create community is through common interest or concerns, or *gesellschaft*.<sup>33</sup> “The core of the concept of community is around people interacting in specific space and time; but these dimensions vary,”<sup>34</sup> and this concept can be extended to fit into our expanding understanding of place via virtual connections of place. I would like to propose a third possibility, that in addition to community based on location or interest, in the case of cyber communities, community is formed in a third space where interest and location meet—when the ability to meet in a shared space composed of multiple places is itself the shared interest of the members of the group.<sup>35</sup>

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<sup>31</sup> Such as an annually marked event, or in reaction to a recent or impending event.

<sup>32</sup> Ferdinand Tonnies, “On Gemeinschaft and Gesellschaft,” reprinted from *Community and Society: Gemeinschaft and Gesellschaft* by Ferdinand Tonnies, translated and edited by Charles P. Loomis (East Lansing, MI: The Michigan State University Press), 223-231. [www2.pfeiffer.edu/~lridener/courses/GEMEIN.html](http://www2.pfeiffer.edu/~lridener/courses/GEMEIN.html).

<sup>33</sup> Tonnies, “On Gemeinschaft and Gesellschaft,” 223-231.

<sup>34</sup> Linda Stoneall, *County Life, City Life*. Quoted in Haedicke, Susan, and Tobin Nellhaus, editors. *Performing Democracy: International Perspectives on Urban Community-Based Performance*. Ann Arbor: The University of Michigan Press, 2001, 9.

<sup>35</sup> “In Cohen’s definition, ‘Community is that entity to which one belongs, greater than kinship but more immediately than the abstraction we call ‘society’. It is the arena in which people acquire their most fundamental and most substantial experience of social life outside the confines of the home.’ Rather than with material boundaries or objectifiable institutions, Cohen is concerned with the way people imagine or psycho-culturally experience and interpret their community, which, he argues, has never been free of all sorts of internal divisions, even in its pre-modern manifestation...And a good community show can only come about through a democratic, mutually tolerant joint effort in which the inevitably multiple differences that exist in any group will have to be sensitively negotiated.” Eugene Van Erven, *Community Theatre: Global Perspectives* (London and New York: Routledge, 2001), 256-257.

In many ways the cyber or virtual community is a logical extension of the “imagined community.” Benedict Anderson’s term imagined communities (identifying the formation of the internalized concept of nation and national identity through advancements in print, map-making, and other technologies<sup>36</sup>), is taken to the next logical extension, by globally networked communities in Computer Mediated Communication (CMC) and “cybersocieties”<sup>37</sup> found on the Internet. According to author Judy Malloy,

Communication networks form an invisible geography that intersects the geography of physical place but is defined by political, economic, and cultural systems. The interconnections between communication networks and places enable a kind of conceptual weaving—the opportunity to map the world according to different sensibilities and to form reciprocal communications across geographic, political, perceptual, and temporal borders.<sup>38</sup>

Online cyberspace communities evidence both of Anderson’s principles that there is “no there there” and that the imagined communities provoke strong sense of “perceived place.”<sup>39</sup> Just as Internet communication and connectivity is a modern-day extension of the communication tools used to create a sense of a conversation and nationhood (such as

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<sup>36</sup> Note the importance attributed to today’s technology in creating communities of resistance in the case of the infamous Zapatistas and dissidents in China. “Freedom is fostered when the means of communication are dispersed, decentralized, and easily available, as are printing presses or microcomputers.” Yan Ma, 144.

<sup>37</sup> “The ubiquitous nature of electronic communication has firmly manifested itself in computer-mediated communication (CMC).” Steven G. Jones, “From Where to Who Knows?” in *Cybersociety: Computer-Mediated Communication and Community*, edited by Steven G. Jones, 1-9 (Thousand Oaks: Sage Publications, 1995), 1. This notion of community depends on CMC and on the ability to share thoughts and information instantaneously across vast distances.” Jones, “From Where to Who Knows?” 2.

<sup>38</sup> Judy Malloy, ed., *Women, Art, and Technology* (London: The MIT Press, 1995), 64.

<sup>39</sup> Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London and New York: Verso, 1991), 5.

the printing press), Internet communication is partially responsible for a developing sense of global connection.<sup>40</sup>

Bruce McConachie wrote that, “as real communities (face to face)...dwindle in significance in people’s everyday lives, the imaginative construction of community assumes a greater importance.”<sup>41</sup> The Internet offers a host of virtual meeting places and interactive vehicles for the formation of community. The emergence and continued growth of cyber-communities (or communities utilizing CMC) evidence this trend developing through new communications technologies. According to authors Marina Stock McIsaac, Petek Askar, and Buket Akkoyunlu,

Computer-mediated communication (CMC) offers a tool, a technology for structuring social relations to provide a renewed sense of community. This community is a socially produced space in which people with similar backgrounds and interests construct narratives and dialogs in a highly mobile environment. CMC not only restructures human relations, it customizes social contacts using a postmodern geography. Electronic communities are reformulating traditional geographic communities. These new social formations of communities in cyberspace have a strong influence on people’s forms of interaction.<sup>42</sup>

Internet and videoconferencing technology are linking individuals into new communities based on shared interest, *gesellschaft*, creating a “liberating”<sup>43</sup> space for

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<sup>40</sup> See Castells, *The Rise of the Network Society*, 2.

<sup>41</sup> Bruce McConachie, “Approaching the ‘Structure of Feeling’ in Grassroots Theater,” in *Performing Democracy: International Perspectives on Urban Community-Based Performance*, edited by Susan C. Haedicke and Tobin Nellhaus, 29-57 (Ann Arbor: The University of Michigan Press, 2001), 38.

<sup>42</sup> Marina Stock McIsaac, Petek Askar, and Buket Akkoyunlu, “Computer Links to the West: Experiences from Turkey,” in *Technology and Resistance: Digital Communications and New Coalitions Around the World*, edited by Ann De Vaney, Stephen Gance, and Yan Ma, 153-165 (New York: Peter Lang, 2000), 154.

<sup>43</sup> “...for many people who are disenfranchised or who live in culturally isolated or politically reactionary parts of the world, the net becomes a very liberating space, a very meaningful community... progressive communities can ‘network’ at an international level...Zapatistas have created one of the largest virtual communities on the planet...I think that virtuality is forcing us to redefine traditional notions of community, defined by geography, ethnicity, gender and class, and that we are precisely in the middle of

interaction shaped<sup>44</sup> by their participants. According to author Steven G. Jones, “Most forecasters... envision [electronic communities] as a kind of ultimate flowering of community, a place (and there is no mistaking in these visions that it is place that is at stake) where individuals shape their own community by choosing which other communities to belong to...”<sup>45</sup> In this statement we can see the importance of individuals coming together as a community and through their joined presence online, forming a cumulative sense of place.

Before discussing Digital Theatre online performances between multiple locations and its impact on creating community where place and people meet, I would like to introduce the brief history and terminology associated with these events.

## History

The history of performance spanning multiple locations simultaneously is relatively limited as it is new to our times with the invention of televisual broadcast. Unlike the other chapters of this work, I can not claim many significant historical links to past theatre movements, because the concept of performance distributed across multiple performance locations, or multi-site performance, and telematic<sup>46</sup> art originated with the

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this redefinition process.” Guillermo Gómez-Peña, and Lisa Wolford, “There Goes the Virtual Neighborhood: A Conversation on Technology, Performance Art and Digital Racism,” *Art Papers* 25, no. 6 (November/December, 2001): 56-61.

<sup>44</sup> “CMC may also provide an environment for individuals to shape the community to which they choose to belong. Networks such as the Internet provide an environment for such a social construction...” McIsaac, Askar, and Akkoyunlu, “Computer Links to the West: Experiences from Turkey,” 154.

<sup>45</sup> Steven G. Jones, “Understanding Community in the Information Age,” in *Cybersociety: Computer-Mediated Communication and Community*, edited by Steven G. Jones, 10-35 (Thousand Oaks: Sage Publications, 1995), 11.

<sup>46</sup> This term will be defined a few pages later when I discuss the similarities and differences between telematic, telepresent, and multi-site performance.

technology, within the last half a century.<sup>47</sup> Although arguments have been made that the importance of telegraph and radio in connecting places in new ways, the invention of visual (TV, Satellite, and now Web) broadcast made possible the types of performance I will be discussing.<sup>48</sup> Perhaps one of the first performances to integrate real-time broadcast of performers in different locations into a “live” staged performance (in addition to telematic art experiments in the 1960s) was a work staged by Joseph Svoboda.

Svoboda, more than any other theatre artist referenced in this work, takes us into the digital age.<sup>49</sup> He may very well be the first to have integrated live television broadcast into theatrical performance. In his groundbreaking work, *Intoleranza* in 1965 and later in stage productions,<sup>50</sup> Svoboda integrated television broadcast into the staging in very complex and visually poetic ways.

Working with MIT and Chanel 2 in Boston, Svoboda created an early distance-spanning telematic performance, *Intoleranza* (a new opera about the struggles of an

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<sup>47</sup> However, the idea filmic place juxtaposed can be seen in Futurist ideas. “Cinematic Simultaneity and Interpenetration of different times and places. We shall project two or three different visual episodes at the same time, one next to the other.” Michael Kirby, with some translations by Victoria Nes Kirby, *Futurist Performance* (New York: PAJ Publications, 1971), 216.

<sup>48</sup> See Neil Postman, *Amusing Ourselves to Death: Public Discourse in the Age of Show Business* (New York: Penguin Books, 1985), 65; Scott deLahunta, “Speculative Paper: Theater/ Dance and New Media and Information Technologies,” written and presented to the Working Groups on Dance and Drama, Research Group on Reorganisation of Professional Arts Education, Amsterdam, April 1998, <http://www.art.net/resources/dtz/scott3.html>. See David Z. Saltz, “The Collaborative Subject: Telerobotic Performance and Identity,” *Theatre Research* 6, no. 4 (2001): 73. “At the time of the Satellite Arts Project, broadcast satellites offered the only way to convey television signals over long distances...By the early 1990s, new technologies allowed the transmission of video images over long distances at a very low cost—albeit with much lower resolution and slower frame-rates than satellite television.” Saltz, “The Collaborative Subject: Telerobotic Performance and Identity,” 73.

<sup>49</sup> In addition to staging images of pre-recorded film, and his scenic experiments with lasers and reflective surfaces, Svoboda was one of the first artists or theatre practitioners to conduct early experiments with telematic performance (and perhaps MIDI-control).

<sup>50</sup> Other works using television include *Prometheus* (1971), *Vivisection* (1987), and *Night Rehearsal* (1981).

return émigré to his country and his needless death), which featured actors in at least two physical places, and linked the elements of the stage picture via the live television broadcast before a local audience. This infrequently referenced event may have, in a sense, laid the groundwork for much of the multi-site and online performances which have blossomed over the last decade and a half. Svoboda wrote that he was excited by “the possibility and capacity of instantly reproducing whatever was being shot.”<sup>51</sup> By replaying and projecting action shots with a thirty second delay he “confronted the actor with a recorded picture of his former action, and so on.”<sup>52</sup> This statement points to the temporal digital other which can be seen in current online performance works.

In addition to Svoboda’s theatrically staged work, many artists began experimenting with making telematic art and performance in the early 1960s and using the technology of various means of data relay and broadcast as they evolved and become available. Essential works in this vital art-technology movement of telematic art distance performances include: Allan Kaprow’s *Hello*<sup>53</sup> (1969), the Satellite work *The World in 24 Hours*<sup>54</sup> (1982), *Hole in Space*<sup>55</sup> by Kit Galloway and Sherrie Robinowitz (1995),

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<sup>51</sup> Josef Svoboda, *The Secret of Theatrical Space*, edited and translated by J.M. Burian (New York: Applause Theatre Books, 1993), 79.

<sup>52</sup> Jarka Burian, *The Scenography of Josef Svoboda* (Middletown, Connecticut: Wesleyan University Press, 1971), 103.

<sup>53</sup> See Saltz, “The Collaborative Subject: Telerobotic Performance and Identity.” 73.

<sup>54</sup> See Eduardo Kac, “Aspects of the Aesthetics of Telecommunications,” in *Siggraph Visual Proceedings*, Edited by John Grimes and Gray Lorig, (New York: ACM, 1992), 35.

<sup>55</sup> *Hole in Space* was a video portal between Los Angeles and New York street locations. It “collapsed geographical distance, bringing into being a window between two physical places, through which passers-by at each site could encounter each other visually in real time.” Anna Couey, “Restructuring Power: Telecommunication Works Produced by Women,” in *Women, Art, and Technology*, edited by Judy Malloy, 54-85 (London: The MIT Press, 1995), 58.

*Electronic Café International*<sup>56</sup> (1995), and *Telematic Dreaming*<sup>57</sup> (1992-1995). What each of these pieces share is a sense of collaborative agency or connection between people and elements in distant places.

In addition to technology-based art (or live art dealing with place) music performances (Such as George Coates' *Nowhere Band*;<sup>58</sup> the Peace Child concert for the United Nations' International Day of Peace, 1989 Space Bridge US/USSR/Costa Rica;<sup>59</sup> and *In Common: TIME*<sup>60</sup>), there have been numerous dance technology performances utilizing internet broadcast or videoconferencing such as *World Wide Simultaneous Dance*, AlienNation Company, Troika Ranch, and ADaPT (a dance-tech web collaboration between multiple Universities).<sup>61</sup> In a sense all of these performances works integrating Internet broadcasts follow Svoboda's 1965 TV broadcast production *Intoleranza*, which used real-time broadcasts from outside the theatre. Though the

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<sup>56</sup> "By 1995, Electronic Café International, based in Los Angeles, had approximately thirty network affiliates in Brazil, Denmark, Israel, New York, Toronto, and other locations around the world." Couey, "Restructuring Power," 61.

<sup>57</sup> "In the 1990s, new media artist Paul Sermon created a series of interactive art installations that build on the impulse behind *Hole-in-Space*, collapsing physical space to produce telematic social interactions. His first such piece, *Telematic Dreaming*, consists of two identical beds in remote locations. When you lie on the physical bed in your location, you are joined on the other side of the bed by a real-time video projection of a participant in the second location." Saltz, "The Collaborative Subject: Telerobotic Performance and Identity," 74.

<sup>58</sup> See Montieth M. Illingworth, "George Coats [sic]: Toast of the Coast," *CyberStage* 1, no. 2 (Spring, 1995), <http://www.cyberstage.org/archive/cstage12/coats12.htm>.

<sup>59</sup> In which I was a participant. See Peace Child International at <http://www.peacechild.org/>.

<sup>60</sup> James Oliverio, *In Common: TIME*, directed by James Oliverio, performance at SIGGRAPH, Los Angeles, CA, August 1-4, 2005.

<sup>61</sup> Johannes Birringer, "AlienNation Co." website, <http://www.aliennationcompany.com>, (Accessed March 29, 2003); *Electronic Disturbance* (1996); ADaPT (Association for Dance and Performance Telematics) begun in 2001 which involved Universities in Ohio State, Arizona State, Wisconsin, Utah, and California at Irvine.

subject or technology may be different, the core idea of combining distant areas of theatrical action into one multiple place or linked stage, remains.

### **Terminology: Telematic, Telepresent, and Multi-site Performance**

Perhaps the most exciting use of digital technology in theatre and performance is the use of Internet broadcasting, or videoconferencing, to expand both the playing space (linking performers in multiple locations possibly anywhere on the globe into close visual and auditory proximity) and audience space (allowing for numerous online viewers and multiple co-present audiences to be linked to one event).

With the advent of the Internet as the latest extension of place-spanning communications technologies (including telegraph and telephone), real time communication with people in distant places has become a vital performance possibility. Telematics is defined by leading theorist Roy Ascott as “computer-mediated communications networking between geographically dispersed individuals and institutions,”<sup>62</sup> and can include such media as video, fax, teleconferencing, email, file exchange, virtual space and other technologies. Both the terms telematic and telepresent have been as general terms used to describe performances (and interactive artworks) which occur in multiple linked locations. Ascott explains that telematic art consists of distributed authorship (many authors), and that meaning is emergent with and through (human and data) interaction with the network.<sup>63</sup> Author Giuseppe O. Longo sees

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<sup>62</sup> Edward A Shanken, “From Cybernetics to Telematics: The Art, Pedagogy, and Theory of Roy Ascott,” In *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness* by Roy Ascott, 2-94 (Berkeley: University of California Press, 2003), 232.

<sup>63</sup> “In a telematic art, meaning is not created by the artist, distributed through the network and received by the observer. Meaning is a product of interaction between the observer and the system, the



telematics in terms of the physical body, “*Telematics and virtual reality* produce a communicative, perceptive, and functional *diffusion of the body*.”<sup>64</sup>

Telepresence, put simply, is “the ability to be in more than one place at one time,” or in the use of “computers, telecommunications and robotics to conjoin two or more real-world locations.”<sup>65</sup> Noted practitioner and theorist, Eduardo Kac writes that telepresence has the characteristics of the primacy of real time over real space, and shortest distance between two points being not “a line” but “real time.”<sup>66</sup> At the core of Telematic and Telepresent art and performance is the sharing of creative space across multiple places and the building of community through this common interest. “Telepresence is the province of the distributed self, of remote meetings in cyberspace, of on-line living. Telepresence means instant global interaction with a thousand communities, being in any one of them, or all of them, virtually at the same time.”<sup>67</sup>

Adrea Zapp refers to telepresence in terms of the idea of teleportation, and of the shared

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content of which is in a state of flux, of endless change and transformation. In this condition of uncertainty and instability, not simply because of the criss-crossing interactions of users of the network but because the content is embodied in data that is itself immaterial, it is pure electronic difference, until it has been reconstituted at the interface as image, text, or sound.” Roy Ascott, “Is There Love in the Telematic Embrace?” *Art Journal* 49, no. 3 (1990): 233.

<sup>64</sup> Giuseppe O. Longo, “Body and Technology: Continuity or Discontinuity?” In *Mediating the Human Body: Technology, Communication, and Fashion*, edited by Leopoldina Fortunati, James E. Katz, and Raimonda Riccini (Mahwah, New Jersey and London: Lawrence Erlbaum Associates, Publishers, 2003), 26.

<sup>65</sup> Andrea Zapp, “net.drama://myth/mimesis/mind\_mapping/,” in *New Screen Media: Cinema/Art/Narrative*, edited by Martin Rieser, and Andrea Zapp, 77-89 (London: British Film Institute, 2002), 79; David Z. Saltz, “The Collaborative Subject: Telerobotic Performance and Identity,” *Theatre Research* 6, no. 3 (2001): 70.

<sup>66</sup> Eduardo Kac, *Telepresence and Bio Art: Networking Humans, Rabbits, and Robots* (Ann Arbor: University of Michigan Press, 2005), 144.

<sup>67</sup> Roy Ascott, *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness* (Berkeley: University California Press, 2003): 326.

zone of activity created by the interface of the screen or projected image of the distanced other or video-self other.<sup>68</sup> Author Julia Glesner points out:

Telepresence as a specific form of embodiment replaces real proximity between the performing and perceiving bodies with their visual representation and, thereby, transform the role of the physical performing body in performance art... Whereas telematic performances in general challenge the concept of liveness and the performers' presence, Internet Performances additionally incorporate the Internet's role as a site in its various social, technological and esthetical components.<sup>69</sup>

Both of these terms, Telematic and Telepresence, have been used to describe artworks/performances which span place and form community, however additional terminology such as, distributed performance, networked performance, Internet performance or multi-site performance are also used.<sup>70</sup> These terms all indicate the importance of varied places communicating as they create one (multifaceted) performance event. Author Julie Glesner does an excellent job of sketching out these types of performances which utilize internet connections, computer software to network together streaming video from video cameras (and projection systems in distant locations). She writes:

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<sup>68</sup> She continues talking about telepresent art like *Telematic Dreaming*. "The viewers have to accommodate to the unfamiliar space and redefine their accustomed behaviour in this set, as everyday objects like a simple bed or table are now located in the virtual to be shared with unknown visitors... The interface determines the rules of the social game and sets the initial moment of communication, from which the participants develop their own sequences. Instead of presenting a role or a character, they act themselves." Zapp, "net.drama://myth/mimesis/mind\_mapping/," 79.

<sup>69</sup> Glesner, Julia. "Internet Performances as Site-Specific Art." *Body Space and Technology* 3, no. 1 (2002). <http://people.brunel.ac.uk/bst/documents/juliaglesner.doc>. (No pagination).

<sup>70</sup> Lisa Naugle, known for her work with dance technology, defines Networked performance as "a synchronous approach to communication; that is, a shared activity between two or more people who are collaborating at the same time. Collaborations may be located at the same place or in different places... This can be two way or multipoint method of communication..." Lisa Marie Naugle, "Distributed Chorography," *PAJ* 71 24.2, 56; Multi-site performance: "In particular, a number of performance groups used the Internet to create multi-site performance events." Saltz, "The Collaborative Subject: Telerobotic Performance and Identity," 74.

Telematic and distributed performances dissolve the spatial (but not the temporal) unity between performers and spectators and distribute the scenic space into diverse remote sites. The number of these remote sites and the location of the audience vary depending on the projects' concepts. The remote sites are linked via diverse Internet services... Here the performers' corporeality and the scenic space are mediated via telematic media such as videoconferencing systems and web cams. The three-dimensionality of the performers' bodies and of space are represented two-dimensionally on the PC or a surface serving as projecting screen... This telematically mediated status of the performers' corporeality is called 'telepresence.'<sup>71</sup>

Multi-site performances create a liminal, or interstitial space between all performance sites involved. Kent de Spain indicates that the place of performance is complicated by videoconferencing and telematic performance techniques, which create an "abstract 'communicative' space"<sup>72</sup> between participants interacting between distant places. In videoconferencing environments it is possible to achieve a sense of multiple places existing at once, to "collapse distances and throw distant spaces into the temporal dimensions of now."<sup>73</sup> The product of these places layered (through visual proximity via projection) is a new perception of place which is multi-layered, existing in the present, through technology.<sup>74</sup> This sense of a perceived hyper-place is commonly referred to a

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<sup>71</sup> Glesner, "Internet Performances as Site-Specific Art," (no pagination).

<sup>72</sup> Kent deSpain, "Come in and Make Yourself at Home: Colonization and the Body/Technology Interface," *Body Space and Technology* 2, no. 1 (2001), <http://people.brunel.ac.uk/bst/vol0201/kentdespain.html>. (No pagination).

<sup>73</sup> Alice Rayner, "E-Scapes: Performance in the Time of Cyberspace," in *Land/Scape/Theater*, edited by Elinor Fuchs, and Una Chaudhuri, 350-370 (Ann Arbor: The University of Michigan Press, 2002), 351.

<sup>74</sup> "Communication networks form an invisible geography that intersects the geography of physical place but is defined by political, economic, and cultural systems. The interconnections between communication networks and places enable a kind of conceptual weaving—the opportunity to map the world according to different sensibilities and to form reciprocal communications across geographic, political, perceptual, and temporal borders." Couey, "Restructuring Power," 64.

sense of “being there” by many internet performers and community members.<sup>75</sup> This is the power and appeal of telematic performance, it is also fertile ground for growing a sense of community.<sup>76</sup>

In his article, “The Collaborative Subject: Telerobotic Performance and Identity,” Dr. David Saltz chooses the 1977 performance of the *Satellite Arts Project* to exemplify the “aesthetic implications” of multi-site performance. He writes:

...Kit Galloway and Sherrie Rabinowitz’s 1977 *Satellite Arts Project*, a series of ‘telecollaborative’ dance and musical performances linking together geographically dispersed performance sites using live television. As the artists describe it, the goal was: to demonstrate (for the first time), that several performing artists, all of whom would be separated by oceans and geography, could appear and perform together in the same live image (the image as place).<sup>77</sup>

Although the technology for broadcast was not Internet-based, the striking description of places brought together through performance is just as applicable to the types of Internet multi-site pieces which are going on today. But now the technology of broadcast is more accessible, and more artists and performers are able to participate.

### ***Digital Theatre between Places, Online Collaboration, Distanced Performance***

I see immense value in the digital performance works I have mentioned above and have chosen three digital performances to briefly discuss before examining the ongoing

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<sup>75</sup>“As Internet enthusiasts unceasingly observe, the on-line environment cress a new option for ‘being there’ in the accomplishment of many tasks.” Laura Knott, “World Wide Simultaneous Dance: Dancing the Connection between ‘Cyberplace’ and the Global Landscape,” *Leonardo*, 34.1 (2001): 15.

<sup>76</sup> See Bhabha, *The Location of Culture*, 2.

<sup>77</sup> Saltz, “The Collaborative Subject: Telerobotic Performance and Identity,” 73.

performances of the ArtGrid performance community. The following examples of Digital Theatre and digital performance works, *FIRT(ive) Encounter*, *UBU Project*, and *World Wide Simultaneous Dance*, were staged place across multiple linked performance spaces. Each of these performances highlighted the combined presence of distinct places as part of the total stage picture and thus the core of the theatrical experience. They are presented in the order of increasing level of complexity and sophistication (in terms of the number of local places involved and how real-time video transmissions are used). Gertrude Stein Repertory Theatre's (GSRT's) work, *Ubu Project*, layered distant places onto actor's bodies, and finally *World Wide Simultaneous Dance* (a digital dance piece selected for its relevance to Digital Theatre as a model of multi-site performance) defined cyberplace while building community through the dual performance of local and global place.

### ***FIRT(ive) Encounter: An Experiment In Distanced Improvisation***

The first Digital Theatre piece I will discuss which utilizes Internet broadcast to expand the performance place, by visually/auditorily combining two or more performance locations is *FIRT(ive) Encounter*. This improvisational theatre performance piece was demonstrated by Dr. David Saltz and colleague Dan Zellner for the International Federation of Theatre Research conference in July, 2005. Place was a key component of the performance. In the work, two actors (a young man and woman) were located in Athens, Georgia, and another in Chicago, Illinois. Though neither was physically co-present with the audience, an audience member was deputized as an impromptu participant in the improvisational-style exchange which was structured to riff on a short series of semi-rehearsed or planned exchanges between the two actors on the

screen. The primary event and spectacle was located on the screen, in which the two heads faced each other, demonstrating the Apple (iChat AV) software interface's ability to seemingly join two windows or places into one visual environment. As the two distanced actors faced each other in an ambiguous lover's quarrel, they appeared linked in spontaneous conversation and yet the distance between them was simultaneously reinforced by the sharp lines which segmented their heads and shoulders from the rest of their bodies and imprisoned them in trapezoidal prism shapes in the same artificial reflective synthetic environment.

As the audience-participant<sup>78</sup> (or novice inter-actor) watched by the local audience and was watched by the actors via web cam focused on them in their hot seat, they became part of the theatrical action. Thus the performance existed in the here-and-now and became a co-present event which spilled over from the screen into live/co-present theatrical space. Three places made explicitly present, Georgia (through the actor there), Chicago (through the actor in that location), and the University of Maryland, where the event was staged before the conference audience—through the unwitting participation in dialogue and facial and bodily response which fed the other two (mediated) actors. (Perhaps a fourth virtual place was indicated by the presence of the cold-looking interface.)

Rather than being a three-way conference, this was a new type of theatrical experiment. As the audience-participant squirmed in their chair, made eyes at the actor or actress, or blushed from their attentions, a tense developing scene evolved which became a truly fascinating (electric) tripod or triangle. The relationship between the two

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<sup>78</sup> Of which I was one of four.

actor's characters was interrupted and changed by the third "live" person. He or she became an object of interest, a pawn, and an obstacle or rival for the other's attention. Another compelling aspect of the demonstration was the visual influence of scale of the screen performers and the live audience-participant. The massive size of the heads and upper-torsos of the mediated performers gave them an almost god-like presence in contrast to the whole body of the real-size seated individual. This visual depiction gives insight to the ongoing conversation between the value of human and hyper-mediated data (between living people and processed images to us through our media saturated consumer culture). If this were a full production, quite an interesting relationship could be built between the characters (both actors and inter-actors), however as an improvisational experiment it can only leave us wanting more. But this is a good thing, for the test provides an example of what can be done in the future.

A more complicated use of multiple performance places, allowing performers to share a composite performance place, can be seen in GSRT's use of bodies as the site for multiple places.

### **Layering Places on the Body, GSRT's *UBU Project***

An example of multiple performance places allowing performers to share a composite performance place can be seen in GSRT's use of bodies as the site for multiple places. Working hand in hand with Lucent's *Montage* in the mid 1990s, the Gertrude Stein Repertory Theatre lead the way in testing early multiple stream video transmissions for use in the arts both for pedagogy and performance. Among their distance performance projects were the *Inspector General* (online rehearsals between Yale, and St. Petersburg in 1997) and the *Crucible Project* (involving playwright Arthur Miller and students in

Russia), which lead up to their *UBU Project* involving performers (in the US, Japan, and Russia), and their current project *Making of Americans*. Early works were seen as learning experiments to connect diverse acting pools, but *UBU Project*, in particular, became the full flowering of a new aesthetic which joined the bodies of performers across the globe into composite characters.<sup>79</sup>

Working with and existing script (Alfred Jarry's *UBU*), GSRT rehearsed with groups in Japan and Russia and created a compelling piece of Digital Theatre which challenges our assumptions about the make-up of living (or embodied) characters and our experience of place and body on stage. The "live" co-present performers give their bodies to be joined with projected images from distant performers. The transmitted video images fused body parts of one to the moving structure of another, thousands of miles away. Distant bodies were joined into a collage of character.

As Cheryl Faver and John Reaves of the GSRT explain, "projecting digital images onto live choreographed moving performers...[we] overlay images of remote actors (senders) on actors in the local space (receivers) as the first step in developing the capacity of merging casts" in geographically dispersed locations.<sup>80</sup> Faver and Reaves call

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<sup>79</sup> "Multimedia can make a real impact when it is used to enhance communication between people. The result of our work with the Yale-St. Petersburg production shows how creative use of the Internet can further new forms of collaboration," said Sid Ahuja, head of the Multimedia Communications Research Department at Bell Labs. "This is the future of the theatre: the Internet is a natural medium for actors who have never met face-to-face to interact as if they were onstage together." "Bell Labs Internet Collaboration Technologies unveiled in U.S.-Russia experimental theater production," Press Release for *The Inspector General*, released 24 July, 1997, Contact: Chris Pfaff, <http://www.lucent.com/press/0797/970724.bla.html>, (accessed December, 2003).

<sup>80</sup> Cheryl Faver, and John Reaves, "Gertrude Stein Repertory Theatre," <http://www.digitalperformance.org/IEE.htm> (accessed December, 2003).



this technique digital puppeteering.<sup>81</sup> “Digital puppets integrate live, digital, and animated elements into the creation of a single character...”<sup>82</sup>

Problems that they are solving in their ongoing work include “moving a projected digital video image across the stage in synchronization with a performer’s choreographed movements, coordinating projected images and performers (senders and receivers) without interference, developing practical equipment and systems for digitizing and keying the senders images...synchronizing other digital media and stage components (virtual sets, animation, lighting and so forth) with the senders’ and receivers’ performances.”<sup>83</sup>

Watching the archival tape at their New York facility, I was struck by the scene of bodies overlapping. The poetic grace of the manipulation of the fabric draped over the co-present performer, by bunraku-like handlers is so carefully choreographed, that the whole movement becomes one ritualistic montage, a multiplicity of bodies becoming one stage-entity.<sup>84</sup> In one scene, “Four performers create one character through digital

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<sup>81</sup> “‘digital puppeteering’...Often, human and digital characters are technologically merged, making the ‘actors’ a combination of physical and virtual elements.” Winston Barclay, contact, “Gertrude Stein Meets Video-Game Technology in UI World Premiere,” Press Release for *The Making of Americans, Part I: The Silent Scream of Martha Hersland*, released 15 April, 2002, <http://www.uiowa.edu/~ournews/2002/april/0415stein.html>, (accessed December, 2003).

<sup>82</sup> “They were the focus of the 1998 *UBU Project*, which was the first phase involved in creating characters using live ‘layering’ effects.” Cheryl Faver, “Towards a Digital Stage Architecture: A Long-Term Research Agenda in Digitally-Enabled Theatre,” *IEEE Artful Media*, October-December 2001, 6-9, <http://www.gertstein.org/pdfs/u4artflo.pdf>, (accessed December, 2003).

<sup>83</sup> Cheryl Faver, “Towards a Digital Stage Architecture: A Long-Term Research Agenda in Digitally-Enabled Theatre.”

<sup>84</sup> “Performers in far-flung locations, such as New York and Japan, work together in real time to create live performances in both locations simultaneously, with the faces and bodies of actors in one location being projected via video-conferencing on masks and costumes worn by actors in the second location to produce a composite identity. The GSRT draws a parallel between this process, which they call ‘Distance Puppetry,’ and Japanese performance traditions such as bunraku and ningyo buri that also employ multiple performers to portray individual characters...” Saltz, “The Collaborative Subject: Telerobotic Performance and Identity,” 76.

videoconferencing and projection. One local actor (dressed in white) is the ‘receiver’ of the image, and the other helps to manipulated the drapery that serves as a projection surface. One remote actor is the face and body; another the legs.”<sup>85</sup> As the distanced performer(s) move flexing their legs and arms or sitting up, the whole co-present ensemble moves in delicately corresponding measures. Each smile, each graceful gesture of another, projected onto the living here-and-now performer, carries with-it a luminous quality of otherness, a certain sense of magic and wonder that through technology we are re-embodiment the distant in this near body in the place where the audience is gathered in breathing proximity.



*Figs. 65 and 66: Projecting images on live performers in UBU Project. Images copyright the Gertrude Stein Repertory Theatre, used with permission; costume design by Michael Oberle.*

GSRT continues to refine their digital puppetry or layered characters with more advanced projection systems (the robotic mirrors to position projections) and wearable projection surfaces (costumes) in *Making of Americans*. In this production much of the spoken dialogue came from actors outside the immediate performance venue in Ohio, as

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<sup>85</sup> “Gertrude Stein Repertory Theatre,” <http://www.digitalperformance.org/IEE.htm> (accessed December, 2003).

far away as New York City.<sup>86</sup> One source wrote of the production, “One of the most promising applications for the performing arts is the ‘creation’ of character by overlaying digital images from remote sites onto live actors.”<sup>87</sup>

The idea of “painting” character onto another’s body, causing the two to merge is extremely compelling as new theatrical aesthetic.<sup>88</sup> When the silhouette of the father’s archetypically male (suited and bowler hat wearing) form is projected over a woman’s face or round silhouette, or when multiple bodies merge and appear on draped figures (with limbs matching or extending beyond the projected image of a form) or appear momentarily only on the projection surface of expertly manipulated moving fans, or as in other productions in the chest of another, our experience of what is a body or character shifts with our awareness of multiple bodies in different places and our newly expanding notion of combined places.<sup>89</sup> We are stretched in our comprehension of limits of being and at the same time delighted by new sensations or theatrical metaphors.

In addition playing with the idea of self and layering identity, GSRT’s work challenges notions of place and body. By projecting an actor’s video image on top of

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<sup>86</sup> “The production includes live performers in Iowa City and New York linked through videoconferencing, live and pre-recorded video, projections on a variety of mobile screens.” Barclay, “Gertrude Stein Meets Video-Game Technology in UI World Premiere.”

<sup>87</sup> Cheryl Faver, and John Reaves, “The Making of Americans,” Gertrude Stein Repertory Theatre website, <http://www.gertstein.org/project1.html>, (accessed December, 2003).

<sup>88</sup> “. . . painting a video image onto a local character’s costume, causing two character’s to merge in the local performance space.” Cheryl Faver, “Towards a Digital Stage Architecture: A Long-Term Research Agenda in Digitally-Enabled Theatre,” 8.

<sup>89</sup> Maud Kersnowski, “Costume Drama: The Gertrude Stein Repertory Theater Brings One of its Namesake’s Novels to Life with Costumes that Double as Video Screens,” *Digital Performance* (Winter 2003), [http://archives.digitalperformance.org/archives/winter2003/mertopolis\\_06\\_2002.htm](http://archives.digitalperformance.org/archives/winter2003/mertopolis_06_2002.htm), (accessed January, 2003); Cheryl Faver, “Towards a Digital Stage Architecture: A Long-Term Research Agenda in Digitally-Enabled Theatre;” Barbara Gibson, “Multimedia Macbeth: Three actors play 30 roles in live performance,” <http://www.apple.com/hotnews/articles/2002/02/macbeth/>, (accessed December, 2003).

another actor's costume, they are compositing bodies in different places; playing with our natural assumption of bodies existing in one place at a time, thus simultaneously complicating the stability of place and the singularity and wholeness of the body. They are exemplifying a form of layered place located on the site of the body. Both the neo-Bakhtinian body (expressed in the crowd spilling over and mixing with the individual, and the lack of individual bodily boundaries) and a new sense of computer-mediated multi-layered place, are manifest on the "live" actor's form.

In this next work, bodies are not layered but place is multiplied many times over, and through computer mediation, a new sense of place emerges.

### ***World Wide Simultaneous Dance***

Perhaps one of the clearest examples about the tremendous reach of digital performance and the possibility for place expansion can be seen in *World Wide Simultaneous Dance* (1998), which was conceived and directed by the Boston-based choreographer Laura Knott. Although this is not strictly a piece of Digital Theater, as the emphasis was placed on dance rather than the spoken word, it is a valuable example for the range and scope what is possible with this type of multi-site or networked performance and demonstrates the creator's perception of creating a shared place of performance. This digital performance was staged globally on June 7, 1998, and included sixty dancers in over a dozen countries.<sup>90</sup> The performance was both "live"

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<sup>90</sup> "Approximately 60 dancers in 12 countries participated in World Wide Simultaneous Dance ...The countries represented were Argentina, Australia, Canada, China (i.e. Hong Kong), Germany, India, Israel, Italy, Kenya, Slovenia, South Africa and the United States. In the United States, dancers participated in numerous states, including California, Connecticut, Florida, Massachusetts, New Mexico, New York, North Carolina and Virginia." Knott, "World Wide Simultaneous Dance," 12.

with co-present audience and performers in many of the locations, and a real-time distributed event.<sup>91</sup>

Place (as expanded by digital technology) was the subject and essence of the performance. In her article, Julia Glesner discusses Knott's perception of the piece in relation to site-specific performance.<sup>92</sup> The dancers performed place, both by locating there dance within their actual physical surroundings (as one would relate actions to place in site-specific performance) and created a sense of shared place as they demonstrated the internet-enabled multi-layered place as the site of performance.<sup>93</sup>

In the piece place is made at once local and global. The dancers were asked to choose the places in which they performed. Laura Knott who produced, directed, and danced in the event out of Boston writes in her article, "*World Wide Simultaneous Dance: Dancing the Connection between 'Cyberplace' and the Global Landscape*," "The theme of *World Wide Simultaneous Dance* was place, as in, 'This is me, dancing where I am.' Dancers in each location danced choreography of their own choosing. I asked participants to dance in locations that were meaningful in their own cultures or to dance movement that carried cultural meaning for them."<sup>94</sup> The places they chose were quite varied. Performers danced in dance studios and university spaces across the globe but also in an office at Stanford Medical Center, in a kitchen in Rome, in parks and homes

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<sup>91</sup> "The project consisted of two components: live dance performances happening at the same time in 12 countries around the world and a live Internet video conference that linked participants and allowed audiences to interact with the event." Knott, 11.

<sup>92</sup> "Knott sees herself in the tradition of site-specific art with its 'primacy of the artist's relationship to the site itself.'" Glesner, "Internet Performances as Site-Specific Art," (no pagination).

<sup>93</sup> "*World Wide Simultaneous Dance* used the Internet as a site." Glesner, "Internet Performances as Site-Specific Art," (no pagination).

<sup>94</sup> Knott, "World Wide Simultaneous Dance," 11.

across the US, and the Sydney airport.<sup>95</sup> Multiple public and private places were intersecting in concert.

A patchwork of local places were brought together into one virtual global performance place. Glesner refers to the “dispersion of the scenic space,”<sup>96</sup> but the significance of the piece is not just the tremendous linking and thus expansion of the performance space, but the emergence of a new place from the many. She speaks of cyberplace,<sup>97</sup> a good term to describe the experience of telepresence in multi-site performance. Through the process of online performance this new sense of place began to manifest.<sup>98</sup> Knott writes:

As work on the project progressed, I began to realize that *World Wide Simultaneous Dance* required its own meaningful place within what I had begun to think of as cyberplace--not an empty and featureless cyberspace, but a performance venue with characteristics equally as challenging and interesting as any theatrical or nontraditional performance venue for which I had previously made dances.<sup>99</sup>

Cyberplace is a composite or multi-layered place.

Through these multiple local places, the global place (expressed via cyberplace) was being defined.<sup>100</sup> As this performance created out of multiple locals began to form a

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<sup>95</sup> Knott, “World Wide Simultaneous Dance,” 12.

<sup>96</sup> “The scenic spaces which are globally dispersed are brought together on the PC screen.” Glesner, “Internet Performances as Site-Specific Art,” (no pagination).

<sup>97</sup> “My work as a choreographer making dances for many different kinds of places led me to dream the spatial metaphor of cyberplace as another performance venue for dance, an imaginary landscape for dancing.” Knott, “World Wide Simultaneous Dance,” 11.

<sup>98</sup> This is something I have also experienced in my praxis making multi-site performances with ArtGrid.

<sup>99</sup> Knott, “World Wide Simultaneous Dance,” 11.

<sup>100</sup> “*World Wide Simultaneous Dance* allows local notions of culture and dance to enter into the Internet, and, hence, to introduce its local meanings into the spatiality of the Internet.” “Internet Performances as Site-Specific Art,” (no pagination).

sense of the global, a sense of community becoming manifest, a community of shared interest in creating cyberspace. Knott writes:

For all the participants, the common thread was, ‘We are here, and we are dancing.’ From my perspective as both a performer and a member of the audience, I knew that people around the world were not only sharing a common interest (as in watching a television program) but were creating an event at that moment on the basis of that shared interest.<sup>101</sup>

Community was forming through the very overlap and intersection between differences and similarities present in the shared joy of dancing in very diverse physical locations.

Knott writes that in *World Wide Simultaneous Dance*, she saw “an opportunity to construct—for a brief period of time—a collective ‘based upon the mutual acknowledgement of difference.’”<sup>102</sup> This statement, as it is carried out in performance, seems a proof for Bhabha’s idea of the increased importance for interstices and finding areas of overlap while acknowledging and working from difference in our global world. He writes, “It is in the emergence of the interstices—the overlap and displacement of domains of difference—that the intersubjective and collective experiences of *nationness*, community interest, or cultural value are negotiated.”<sup>103</sup> Thus, in *World Wide Simultaneous Dance* (and similar collaborative multi-site performances) community was formed by using *gesellschaft*, interest in both dancing and diverse place to form *gemeinschaft*, a shared place. This new appreciation of place would not be possible without both performance and technology.

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<sup>101</sup> <http://www.wwsd.org>. Knott, “World Wide Simultaneous Dance,” 12.

<sup>102</sup> Knott, “World Wide Simultaneous Dance,” 11.

<sup>103</sup> Bhabha, *The Location of Culture*, 2.

## ArtGrid

Just as there are multiple venues involved in many of these performances, there are at least as many means of expression. There exist numerous examples of performance events which lie between the disciplines as hybrid performance experiments. The very nature of technology performance is interdisciplinary; due to the movement-based, visual and auditory information being relayed (via web videoconferencing), they exist through mixing mediums. An excellent example of such a hybrid medium is the *InterPlay* series created on the Access Grid. It is one of the ongoing collaborative works created by the members of the ArtGrid (formerly Art on the Grid). *InterPlay* and some other of the group's performance material contains elements similar to the previous examples including improvisation, layering or mixing the image of actor's bodies, and multiple places co-existing and forming a cumulative sense of multi-layered place or cyber-place.

But before discussing any of the group's ongoing performances, I'd like to address the primary reason for including ArtGrid in this study; ArtGrid is an excellent example of an online performance community. It is a community existing through performance, formed by the shared interest in performing together and making art in the Access Grid environment. It is through the members' continued interest and participation that community and cyber-place are formed. Through my four years of observation and participation in the online community, I will offer insight into this important type of developing cyber-community exhibiting a sense of place.<sup>104</sup>

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<sup>104</sup> David Harvey calls this 'placefulness.' "The qualities of place (what might be called 'placefulness')..." David Harvey, *Spaces of Hope* (Berkeley and Los Angeles: University of California Press, 2000), 173.



Richard L. Barr writes that performance communities help “represent the theatre as a place where ‘imaginary communities’ help us to imagine alternative communal forums.”<sup>105</sup> If McConachie is correct about the increased importance of imagined community—now manifested by computer mediated communities—then performative online communities enacting imagined community serve a special purpose in fleshing out the evolving nature of community.<sup>106</sup> ArtGrid is such a community.

However, there is the issue of access to performance spaces, to technology, and to the community. While learning the language and interface to some degree are essential to participating fully in the community, access to the technology itself can be an issue. Not all universities have the correct set-up to allow an interface to the Access Grid, and within the university there are time/money/resources restrictions which limit access to the technology and therefore the community.<sup>107</sup>

As I discuss the history, participatory behavior, and performances of the ArtGrid community, I will identify and define some terminology which will prove helpful in breaking down information and better comprehending the nature of the community, including utopia, *communitas*, devising, and play.

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<sup>105</sup> Richard L. Barr, *Rooms with a View: The Stages of Community in the Modern Theater* (Ann Arbor: The University of Michigan Press, 1998), 16.

<sup>106</sup> Bruce McConachie, “Approaching the ‘Structure of Feeling’ in Grassroots Theater,” in *Performing Democracy: International Perspectives on Urban Community-Based Performance*, edited by Susan C. Haedicke and Tobin Nellhaus, 29-57 (Ann Arbor: The University of Michigan Press, 2001), 38.

<sup>107</sup> “...the use of technology within devised performance inevitably prompts questions about the power of technology — who designs it, who owns it, for what purpose, what is it capable of, how might its uses be recontextualised and redeployed?” Deirdre Heddon, and Jane Milling, *Devising Performance: A Critical History* (Houndmills, Basingstoke: Palgrave Macmillan, 2006), 212. Julia Glesner writes, “Internet Performances are not only adding new dimensions to the theatrical process, but by the omnipresent role of technology in Internet Performances, it seems likely that new powerful constraints (such as the affordability of the technology or its accessibility) are entering the performance process...the question of space in Internet Performances is directly linked to questions of politics and power.” Glesner, “Internet Performances as Site-Specific Art,” (no pagination).

## ArtGrid History

The ArtGrid group (formerly Art on the Grid) is an online community composed of a loose collection of artists/computer scientists from disparate locations primarily in North America who meet virtually via the Access Grid videoconferencing network and form a performative community. The group is not the first, nor hopefully the last virtual community to explore the idea of collaborative art and performance over Internet 2 connections.<sup>108</sup> However, my first-hand experience with ArtGrid offers me insight into the open-source collaborative spirit of online performance communities.

In the Autumn of 2003, I was introduced to the online community of artist/technicians who explored collaborative art-making on the Access Grid. Through a genial first encounter with the Art on The Grid monthly meeting I quickly entered a community with an open, flexible dynamic based on cooperation, willingness to share information, inclusiveness, and an egalitarian balance between members.<sup>109</sup> I came to this situation as a participant-observer.<sup>110</sup> Since this time I have participated in dozens of meetings and a half a dozen or more community performances, including the *InterPlay*

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<sup>108</sup> See also [http://mrccs.man.ac.uk.global\\_supercomputing/SCGlobal/artists.html](http://mrccs.man.ac.uk.global_supercomputing/SCGlobal/artists.html) for information on Art Grid work in the UK and Australia; For more on Internet 2 see Bromberg and Birringer, "Adapt: Telepresent Artistic Collaboratories," 4; Concurrent intercollegiate dance works such as *ADaPT* and global scale performance efforts like *Digital Worlds* bring alternative visions of creating performance and community through technology.

<sup>109</sup> Membership was independent of sex/gender or scholarly background, including local status or technical/artistic interests. It was much like Susan Bennett described: "Its present goal is to put on work from within its own community—a priority not as cliqueish as it may sound since anyone who hangs around is absorbed into that community." Susan Bennett, *Theatre Audiences: A Theory of Production and Reception* (London and New York: Routledge, 1990), 123.

<sup>110</sup> Author Steven G. Jones asks, "How do we study computer-mediated community? Like other social groups, these are palpable, yet evanescent to CMC users. Although we can 'freeze' electronic discourse by capturing the text and information it may contain, how do we ascertain the interpretive moment in electronic discourse, particularly as it engages both reading and writing?" Steven G. Jones, "Understanding Community in the Information Age," in *Cybersociety: Computer-Mediated Communication and Community*, edited by Steven G. Jones, 10-35 (Thousand Oaks: Sage Publications, 1995), 11.

series.<sup>111</sup> Through recounting my own ongoing interaction with this community I hope to give insight to the playful work of creating art/communication within the open-source model of collaboration with the community.

ArtGrid is a virtual community, a sub-group of online researchers located at geographically disparate institutions utilizing the Access Grid videoconferencing environment.<sup>112</sup> According to community sources the first ArtGrid meeting was held in 2002.<sup>113</sup> At the time, the majority of Access Grid users were scientists, and when I joined the group four years ago, the arts were relatively new to the scene. There was a commonly acknowledged sense that we were among a small group of artist/technologists who had gained early access to the Grid and were working together to bring art and performance into the developing virtual territory.

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<sup>111</sup> There were multiple versions of some of the performances such as *Interplay: Loose Minds in A Box* which was remounted for Siggraph and Supercomputing conferences last year. One of my first experiences of ArtGrid was watching Jimmy and Beth Miklavcic's single site online performance *Interplay: Intransitive Senses*. For the following shows: *Interplay: Hallucinations*, *Loose Minds In A Box*, *Dancing on the Banks of Packet Creek*, and *Nel Tempo di Sogno*, I have been the local coordinator for the University of Maryland's participation. As such I have been a performer, writer, technology coordinator, media creator, and advocate for digital performance.

<sup>112</sup> Within the Access Grid's institutional venues lie pockets of independent communication, virtual communities forming in which individuals relate to each other in terms of common interests. The Access Grid itself is explained on the Access Grid Project website as "an ensemble of resources including multimedia large-format displays, presentation and interactive environments, and interfaces to Grid middleware and to visualization environments... These resources are used to support group-to-group interactions across the Grid... The Access Grid is now used at over 150 institutions world wide." "The Access Grid Project," available from World Wide Web: [www.accessgrid.org](http://www.accessgrid.org). While the technology exists in many countries (especially the United Kingdom, Japan, Canada Germany, and Australia), the dozen or so active members of the group are primarily located in North America (including the notable participation of Boston, Utah, Ottawa, Alaska, and Maryland).

<sup>113</sup> Initially, the group may have developed out of or in relation to the ADaPT (or Association for Dance and Performance Telematics) begun in 2001 which involved the universities of Ohio State, Arizona State, Wisconsin, Utah, and California at Irvine. Association for Dance and Performance Telematics, available from World Wide Web: [www.dance.ohio-state.edu/workshops/ips6.html](http://www.dance.ohio-state.edu/workshops/ips6.html). See also Ellen Bromberg, and Johannes Birringer, "Adapt: Telepresent Artistic Collaboratories," [www.finearts.utah.edu/adapt/publications/documents/CHPC\\_NEWS\\_ADAPT.pdf](http://www.finearts.utah.edu/adapt/publications/documents/CHPC_NEWS_ADAPT.pdf), 8.

The ArtGrid list-serve connected individuals interested in showing graphics and utilizing the Access Grid to make art (and later, performance). The ArtGrid list-serve was essential in the formation and maintenance of the group (to initiate meetings and reach new members, and send out calls for participation). In 2003, Jimmy Miklavcic, a Computer Professional at the Center for High Performance Computing at the University of Utah, who had always been instrumental in running meetings, created the Access Grid venue for ArtGrid meetings and performances, the ArtGrid Lobby (hosted at University of Utah). The venue was modeled after a Theater building, and contains meeting “rooms” including a dressing room, backstage, black box, greenroom, and a café. This was done so that multiple performances/rehearsals could occur at the same time, and as a nod to the continued goal of creating online performance.<sup>114</sup>

The community has manifested through e-mail communication, monthly online meetings, and additional collaborative groupings which meet to rehearse and perform together as members are available.<sup>115</sup> The community has changed over the years, fluctuating in membership and scale and frequency of community activities. Current members of the ArtGrid consortium are from multiple universities and research institutions including but not limited to: the Arctic Region Supercomputing Center at the University of Alaska, Fairbanks; the Envision Center, Purdue University; the University of Montana; the University of Maryland; the Electronic Visualization Laboratory, University of Illinois, Chicago; the National Research Council, Ottawa, Canada; the Center for High Performance Computing (CHPC) at the University of Utah; Boston

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<sup>114</sup> As far as I know, thus far, the *InterPlay* group is the primary user of the Theatre venue (despite encouragement from Miklavcic that others should use the space).

<sup>115</sup> Scheduling across institutions and time zones can be a difficult task.

University; and Ryerson University. The meeting of these sites and our collective art events constitute and create the sense of community.

Each site runs Access Grid videoconferencing software on their own equipment configuration (on both Mac and PC CPUs, web cameras, and audio pickups such as echo-cancellation equipment, projectors or display monitors, etc.) on a high-speed Internet2 connection. A variety of different technology configurations are possible from nodes with high-end conference rooms and CAVE environments with multiple seamless floor to ceiling projection screens, to the use of mobile nodes and Personal Interface to the Grids (PIGs) running in offices utilizing computer monitors as the main display, or off of laptops in makeshift networked performance spaces projecting on bare walls. Events and meetings occur within the frameset of art-technology-play which is created at a specific virtual place (or room) and time, once the hardware, software, and peripheries are working harmoniously.

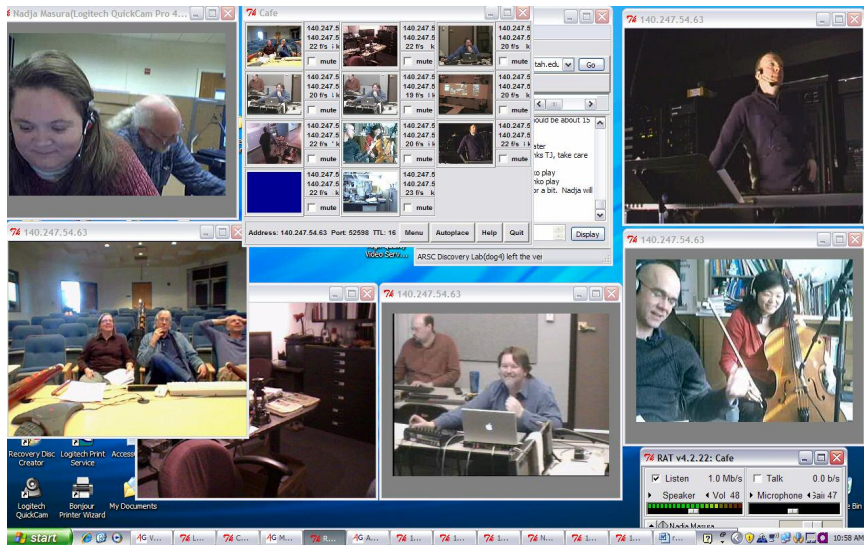


Fig. 67: ArtGrid members meeting on the Access Grid. Screenshot by author.

The perceptual experience of an Access Grid, ArtGrid meeting is one of multiple windows. Baz Kershaw's comment that "every entry is an exit somewhere else"<sup>116</sup> directly relates to the experience of being in an Access Grid meeting. The "compression of global space"<sup>117</sup> is overtly present in the multiplicity of places shown in Grid windows coming in from potentially all corners of the globe in real time. The real-time response through audio, visual, text, and shared data fosters a sense of "being there"<sup>118</sup> in the same meeting room. The technology patches together indoor (and occasionally outdoor) places forming a creative community undeterred by borders and oceans.

The environment which creates and facilitates the community is spatially unique in that it exists through technology and inhabits a layered space, telematically perceived and interstitial, a sense of place determined by both time and data.<sup>119</sup> Upon my first introduction to the Access Grid I was struck by the way in which it created a perceived

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<sup>116</sup> Kershaw, *The Radical in Performance: Between Brecht and Baudrillard* (London: Routledge, 1999), 143.

<sup>117</sup> Kershaw, *The Radical in Performance: Between Brecht and Baudrillard*, 193.

<sup>118</sup> Kershaw, *The Radical in Performance: Between Brecht and Baudrillard*, 150. This perceived connection is later described explored in performance projects such as *Network Touch*.

<sup>119</sup> The ArtGrid group is, in many ways, a time-based community. The nature of interaction in the liminal space of the virtual community, is determined by times set for meetings across time zones. One feels the hand of time in creating the makeup of the group meetings which constitute the community and its events which it creates, and in turn create it. At a point of stabilization in the group, Jimmy Miklavcic, the coordinating member, often remarked: see you on this date "at the usual time." In addition to the language, the time-based nature of interaction in the liminal space of the virtual community is set apart from the normal state of interaction through other framing elements. The visual interface of the Grid, its computer monitor or projector components, and gaining access to rooms in which these are installed all act as a practical framework which contains the experience of each liminal meeting time. One could remark on the efforts to gain access, the repeated behavior of opening/closing/testing programs and equipment as one navigates to the predetermined virtual/temporal coordinates, sometimes as a trial, as repetitive, and perhaps ritualistic (especially when one must pray to the fickle ghosts in the machine), or more useful: a passage into a special in-between place. There are framing words used in invoking and closing which mark the time of connection: "can you hear me?" and "ok see you later." These reoccur at the beginning and end of each session. Within this in-between or liminal space, it is my experience that group members take on a playful, egalitarian attitude aimed at open exploration of mutual interests in the technology and in art.

environment of sharing.<sup>120</sup> Even in a test room without a planned interchange, talking with others who were testing their equipment, I was awed by the fact that we were talking to a woman hundreds of miles away who was responding to me as if I were sharing the space with her, rather than just my video feed and likeness projected next to hers on a blank wall. I perceived a mutual awareness which was immediate and compelling.

### **Terminology: Utopia**

While it may sound a bit idealistic and over-reaching to describe the ArtGrid community as a utopia, the term utopia continues to be applied to online communities. Kevin Robins writes in his article, “Cyberspace and the World We Live In:” “The utopian space—the Net, the Matrix—will be a nowhere—somewhere in which we shall be able to recover the meaning and the experience of community.”<sup>121</sup>

The term utopia means “no place,”<sup>122</sup> and as we discussed earlier, cyber-space or virtual communities exist in a perceived place, a virtual nowhere consisting of data and interaction (there is no actual ‘there, there’). The Access Grid videoconferencing tool creates a liminal place existing on the threshold of multiple locations. Like a utopia, this place exists because we perceive (and mutually desire) it to. Like an optical illusion or synchronicity, cyber-place (as termed by Knott) is perceived, and therefore exists—through doing, participation and process.

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<sup>120</sup> Nadja Masura, “Multi-site Community, Performance Collaboration, and Place. Paper presented at the International Federation for Theatre Research conference, College Park, MD, June 26-July 2, 2005.

<sup>121</sup> He also comments that author, Howard Rheingold’s belief that the Internet “help revitalise the public sphere” potentially “rebuilding community in the face of America’s loss of a sense of a social commons.” Kevin Robins, “Cyberspace and the World We Live In,” in *Cyberspace/Cyberbodies/Cyberpunk: Cultures of Technological Embodiment*, edited by Mike Featherstone and Roger Burrows, 135-155 (London: Sage Publications, 1995): 136.

<sup>122</sup> “The word *utopia* means, literally, ‘no place.’” Jill Dolan, *Utopia in Performance: Finding Hope at the Theater* (Ann Arbor: University of Michigan Press, 2005), 7.

In her book, *Utopia In Performance*, Jill Dolan likens utopia to process (or doing) theatre performance, and the experience of *communitas* in the temporary community formed with an audience.<sup>123</sup> This idea of equating a process with the representation, formation, and even materialization of a positive<sup>124</sup> fictional<sup>125</sup> place (utopia), is essentially what is in play within the process of online community members who are cumulatively and simultaneously creating performance, a sense of community, and perceived place through the performances of the ArtGrid. These concepts of utopia, community, and place materialize through the actions supporting the combined interests of its individual members. Author Lucy Sargisson writes, “Utopia, the no place that is a good place, is an other-place. In terms of the broader society and culture in which they exist, intentional communities are strange, and different.”<sup>126</sup>

ArtGrid creates community and place through process, creating a sense of *communitas* in performance and in the collaborative process.<sup>127</sup> Like Dolan’s examples

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<sup>123</sup> Dolan writes about the concept of utopia as process saying: “Performance’s simultaneity, its present-tenseness, uniquely suits it to probing the possibilities of utopia as a hopeful process that continually writes a different, better future. While many commentators typically conceive of utopia as a space... performance allows us to see utopia as a process of spending time. Performance’s temporality excites audiences with a slight disorientation; its spatiality often anchors it to an imagined place, a ‘what if’ of matter and expression. But performance always exceeds its space and its image, since it lives only in its doing, which is imagining, in the good no-place that is theater... a communal... These moments of *communitas* complement the processual nature of utopia in performance. Victor Turner suggests that any ‘social world is a world in becoming’...” Dolan, *Utopia in Performance*, 13.

<sup>124</sup> “The use of the term ‘utopian’ may seem strange in this context because the word ‘Utopia’ is usually attached to some place that is no place as well as a happy place.” Harvey, *Spaces of Hope*, 173.

<sup>125</sup> “Utopias are invariably fictions. They imagine alternative realities; they stretch the conventions of the present; they re-present the world to us for inspection from another perspective; they imagine worlds transformed.” Lucy Sargisson, *Utopian Bodies and the Politics of Transgression* (London and New York: Routledge, 2000), 6-7.

<sup>126</sup> Sargisson, *Utopian Bodies and the Politics of Transgression*, 59.

<sup>127</sup> “Such work speaks directly to the creation of community via CMC [computer mediated communication], as the development of standards of conduct is in a sense the development of a moral code, a system of values, akin to the ones that arise and are revised in most social formations...” Steven G.



of radical theatre creating moments of *communitas* experienced by temporary community of the receptive audience, ArtGrid and its performances are both actual and liminal.<sup>128</sup>

As a community manifesting through performance and performance process in cyberspace, it is doubly situated between states (being and becoming, imaginary and real, virtual data and real bodies/places).<sup>129</sup> Author Howard Rheingold writes, “Virtual communities are social aggregations that emerge from the Net when enough people carry on [electronically-mediated] public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace.”<sup>130</sup>

### **Terminology: *Communitas***

In general, the ArtGrid group is a performative community in which open, enthusiastic, creative collaboration which exists in an environment that exhibits the characteristics of *communitas* and play. *Communitas* is defined by Victor Turner as “a liberation from normative constraints...and being acutely conscious of membership in some corporate group such as a family...clan...tribe.”<sup>131</sup> This fits my early experiences of participating in the ArtGrid community meetings. While there is no set ideology, each

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Jones, “From Where to Who Knows?” in *Cybersociety: Computer-Mediated Communication and Community*, edited by Steven G. Jones, 1-9 (Thousand Oaks: Sage Publications, 1995), 6.

<sup>128</sup> “The production translated into terms through which I could relate that heightened sense of community, of belonging, of desire, of utopia that *communitas*...at the theater summons.” Dolan, *Utopia in Performance*, 12; The “performance’s effect on the audience as a temporary community, perhaps inspired by *communitas* to feel themselves citizens of a no-place that’s a better place...” Dolan, *Utopia in Performance*, 15.

<sup>129</sup> “Given theater’s ontological status, or its way of being, poised as it is between appearance and disappearance, and given the utopian performative’s inherent ephemerality...” Dolan, *Utopia in Performance*, 7.

<sup>130</sup> Howard Rheingold, *The Virtual Community: Finding Connection in a Computerised World* (London: Secker and Warburg, 1994), 5.

<sup>131</sup> Victor Turner, *From Ritual to Theatre: The Human Seriousness of Play* (New York: Performing Arts Journal Publications, 1982), 44.

participant brings with them an enthusiasm for collaboration, some form of aesthetic skill or enjoyment, as well as a genuine interest (and variable ability) for working with the developing technology. Turner also describes *communitas* as an “instant of pure potentiality,” which accurately describes the sense of shared energy and creative impulses of virtual community in performance.<sup>132</sup> In some sense, ArtGrid performances can be compared to grassroots and community theatre practices in that they are of a specific place (the Access Grid) and they are created within the community.<sup>133</sup>

The positive collaborative model of the ArtGrid community offers participants a sense of *communitas*, or peer bonding within the shared virtual space outside of normal life.<sup>134</sup> In general, despite the time spent focused on testing the technology; the energy, attitude and language used by the group reflects a candor and playful openness which reflects their enthusiasm and good will; a sort of camaraderie. Playfulness and play is a large part of the community and its artistic processes. Jimmy Miklavcic’s *InterPlay* series title combines the ideas of “play” and the “Internet.”<sup>135</sup> As a nested community, or

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<sup>132</sup> Turner, *From Ritual to Theatre*, 44.

<sup>133</sup> “Community theatre is a worldwide phenomenon that manifests itself in many different guises, yielding a broad range of performance styles. It is united, I think, by its emphasis on local and/or personal stories (rather than pre-written scripts) that are processed through improvisation and then collectively shaped into theatre under the guidance either of outside professional artists—who may or may not be active in other kinds of professional theatre—or of local amateur artists residing among groups of people that, for lack of a better term, could perhaps best be called ‘peripheral’...Its material and aesthetic forms always emerge directly (if not exclusively) from ‘the’ community, whose interests it tries to express. Community theatre thus is a potent art form that allows once largely silent (or silenced) groups of people to add their voices to increasingly diverse and intricately inter-related local, regional, national and international cultures.” Van Erven, *Community Theatre*, 2-3; See Tobin Nellhaus, and Susan C. Haedicke, “Introduction,” in *Performing Democracy: International Perspectives on Urban Community-Based Performance*, edited by Susan C. Haedicke and Tobin Nellhaus, 1-23 (Ann Arbor: The University of Michigan Press, 2001), 18-19.

<sup>134</sup> “This constant, multisided effort to improve the communicability of the network is a remarkable example of how the technological productivity of cooperation through the net ended up enhancing the net itself.” Castells, *The Rise of the Network Society*, 356.

<sup>135</sup> Another Language Newsletter Volume 1, issue 1, January 2004, 2.

substrata of the larger Access Grid system, playful work is part of a larger plan to obtain user/developer input and is key to continued artistic and technical development. “Art on the Grid is an organization of visual, media, and musical artists who are developing productions on the Grid in order to explore its strengths, weaknesses, and inherent potential.”<sup>136</sup> In casual conversation after technical testing, Jimmy remarked on the importance of our artistic or deep play:<sup>137</sup> “Who defines the technology? We do. Pushing ourselves, we force the technology forward into the future.”<sup>138</sup>

In general, the language used by the group reflects a candor and playful openness which reflects their enthusiasm and good will; a sort of camaraderie. Exchanges between members were of a playful nature. Personal and professional interactions mixed casually in language, in an awareness of personal or family life, and in joking/playful behavior.<sup>139</sup>

Initially, I found ArtGrid to be very egalitarian. The ArtGrid community itself was composed of what I called “a village of chiefs” in that every member was an essential part of their local technology unit which monitors their local Grid node (or PIG). While in many ways this is still the case, access to technology (and local hierarchical status) has recently become more evident as roles defined individuals within

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<sup>136</sup> Scott Deal, e-mail message to author, April 22, 2004.

<sup>137</sup> “In the world as new, we can play with meaning, ‘play in deep seriousness’... which empowers (us) to de-authorize meaning just as it enables us to reconstruct the world.” Roy Ascott, *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness* (Berkeley: University California Press, 2003), 258.

<sup>138</sup> Jimmy Miklavcic, online dialogue with the ArGrid community, 2005.

<sup>139</sup> For example: “I’ll do my best for Friday. I might have to bribe my husband, but he’s usually pretty good.” Janice Singer, e-mail message to author, April 6, 2004. The group often made jokes, off the cuff responses like “Happy Turkey,” or sent smiley faces, etc. in their communications. Jimmy Miklavcic e-mail messages to author, September 9, 2003, February 4, 2004, and February 24, 2004; Brian Buck, e-mail messages to author, November 24, 2003, and March 11, 2004; Kenneth Emig, e-mail message to author, April 7, 2004. Etc.

community productions, especially *InterPlay*. Ideally, within this environment, each member was equal within that environment and given the same opportunity to present materials and agenda items for meetings as well as to assume a position of prominence by heading/coordinating collaborations which they proposed. This is not to say that collaborators/members were not aware of my artistic—rather than networking—experience, but in most situations I felt treated as an equal within the meetings and art-events. This lent to the feeling of bonding in that all members were themselves new initiates, thus creating a feeling for *communitas*—of voluntary exploration of the new technological art frontier. Within the community, the role of the presenter/project-leader was respected, and the efforts of the Utah group in establishing meeting times and agendas created additional feelings of warmth for these group founders.<sup>140</sup>

As part of this continued effort to bridge distant places through real-time art making, the ArtGrid community shares in an ongoing heritage of discovery and connection. Many online performers have noted a feeling of what Roy Ascott refers to as a sense of “connection and...close community, almost intimacy...quite unlike...face-to-face meetings.”<sup>141</sup>

### **Devising and Creative Collaborations: Community through Performance**

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<sup>140</sup> Jimmy Miklavcic, e-mail message to author, November 12, 2003, thanks presenters and encourages newcomers. Agendas from Jimmy Miklavcic, e-mail messages to author, January 21, 2004, and February, 24, 2004. It was because of this feeling that I once described Beth and Jimmy Miklavcic as the “virtual mother and father of the Art on the Grid community.” But this comment was also given in the context of their recent staging of *Hallucinations*, in which I had just participated, and their technical and artistic support with my own project. They had been the first to volunteer as participants, and the most constant in terms of technical and emotional support in our makeshift endeavors. If nothing else, they provided an incredible bonding force in creating meetings and performances.

<sup>141</sup> Ascott, *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness*, 6.

At the core of ArtGrid is the process through which it forms, in performance collaborations.<sup>142</sup> Online performance works in terms of collaborative creation, or the collective creative work of online community performances, can also be discussed in terms of the practice of devising.<sup>143</sup> Authors Deirdre Heddon and Jane Milling explain that the core idea of devising or creative collaboration is a range of practices centered around the communal creation of a performance text as part of the group process.<sup>144</sup> It is a “mode of work in which no script — neither written play-text nor performance score — exists prior to the work’s creation by the company.”<sup>145</sup> The importance of devising or collaborative creation is not only the end product, a performance of original material, but the process of its formation. Heddon and Milling write:

Devising is variously: a social expression of non- hierarchical possibilities; a model of cooperative and non-hierarchical collaboration; an ensemble; a collective; a practical expression of political and ideological commitment; a means of taking control of work and operating

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<sup>142</sup> “The implications of digital networking—for culture, for the social order...are quite radical. Networking is a subversive activity of extreme potency. It is turning the world upside down, inside out. It is actually erasing space, destabilizing location, and investing time with the qualities of reversal and compression...” Ascott, *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness*, 260.

<sup>143</sup> “Télématique is a decentralising medium; its metaphor is that of a web or net in which there is no centre, or hierarchy, no top nor bottom. It breaks the boundaries not only of the insular individual but of institutions, territories, and time zones. To engage in telematic communication is to be at once everywhere and nowhere. In this, it is subversive. It subverts the idea of authorship bound up within the solitary individual.” Ascott, *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness*, 199; “British and Australian companies tend to use ‘devising’ to describe their practice, whereas in the USA the synonymous activity is referred to most often as ‘collaborative creation.’” Like her, I will use the terms somewhat interchangeably. Heddon and Milling, *Devising Performance*, 2.

<sup>144</sup> “Overall, devising is best understood as a set of strategies that emerged within a variety of theatrical and cultural fields, for example in community arts, performance art/live art, or political theatre. Within these fields, a range of devising processes evolved in relation to specific and continually changing cultural contexts, intimately connected to their moment of production.” Heddon, and Milling, *Devising Performance*, 2.

<sup>145</sup> Her use of the term is to explicate and examine the process of theatre groups collaboratively creating a script or performance score. “Of course, the creation and the use of text or score often occur at different points within the devising processes...devising is a process for creating performance from scratch, by the group, without a pre-existing script.” Heddon, and Milling, *Devising Performance*, 3.

autonomously; a de-commodification of art; a commitment to total community; a commitment to total art; the negating of the gap between art and life; the erasure of the gap between spectator and performer... a means to incite social change; an escape from theatrical conventions; a challenge for theatre makers; a challenge for spectators; an expressive, creative language; innovative; risky; inventive; spontaneous; experimental; non-literary.<sup>146</sup>

## **ArtGrid Community Performance**

There are a wide variety of collaborative performances which I have experienced in ArtGrid, ranging from simple improvisatory events much like happenings, to workshops and potluck performances, to rehearsed and scripted theatrical events, to orchestrated multi-site performances melding multiple media and forms of expression.

### ***Network Touch***

My initiation into the world of the Access Grid community began with an invitation to participate in an art project from Ryerson University which included two interactive pieces: *Network Touch* and *Collective Hope*.<sup>147</sup> *Network Touch* by Galen Scorer was a visual collage of hands “touching” across space. The call for participants asked people to focus cameras on their hands, and through relative positioning of hands mixed video streams create a telematic meeting of bare hands (see Fig. 68 below).

*Network Touch* was a simple but effective experiential piece which communicated the

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<sup>146</sup> Heddon, and Milling, *Devising Performance*, 5.

<sup>147</sup> The first piece used hands and the latter piece combined video streamed images of individual candles from each institution Likewise, other pieces such as *Impossible Sky* by Ryerson University simply asked participants to transmit video of the sky outside their nodes to be merged into one. This type of collaboration is simple, but visually—and on some level emotionally—effective. I initiation into ArtGrid began with a flurry of e-mail and my excited response to participate in an art event. It is safe to say that my enthusiasm was not unique as each new member, upon joining, has shown great interest in the group’s activities. Often, established node managers in varied locations are exuberant when they find the group for the first time, as in the case of Kenneth Emig. As my future collaborator, Brian remarked: “I heard you really jumped in with both feet at the last meeting.” Brian Buck e-mail message to author, August 27, 2003. Indeed, I (along with others online) had thrown myself in to the experiment with great enthusiasm.

visual impact of a perceived sense of proximity between participants across geographical places. As a participant I felt compelled by the experience of reaching out for and sensing another's hand when I watched the mixed video stream joining my image with another's.

The Synth/Ops project statement for *Network Touch* states:

At this moment of touch we give reference to our self and to our surroundings that orient us but also symbolically orient ourselves to another. The idea of the possibilities and impossibilities of this moment in cyberspace.<sup>148</sup>



Fig. 68: Network Touch. Screenshot by author

This statement is very telling about not only this initial collaborative experience, but describes the interactions and ethos of the ArtGrid community as being open to participatory and egalitarian forms of collaborative artmaking. In addition to the expressiveness of the hands “touching,” what is striking about the piece is its simple improvisatory nature. I joined in the event my second time on the Access Grid without any preparation but the node facilities in a response to the call to participate. The art-making event was simply open to everyone on the Access Grid. That kind of artistic

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<sup>148</sup> Galen Scorer, “The Synth/Ops Research Group,” [www.rcc.ryerson.ca/synthops/hand.htm](http://www.rcc.ryerson.ca/synthops/hand.htm).

openness was truly refreshing and also challenging to the infrastructures which often surround the performing arts. To be embraced as a participant and offer content to such a pure performance event, opened my heart to the freedom of collaborating online.

### ***Outside/In***

The first project I staged locally as a member of the community was called *Outside/In: Part 1*.<sup>149</sup> It was conceived as a test or performance experiment utilizing Personal Interfaces to the Grid (PIG) and various means of broadcast into the virtual Access Grid environment from geographically disparate locations. The piece was open to any kind of artistic contribution which related to their real-time interaction with nature or environment, highlighting the uniqueness of their outdoor location. It seemed to me that our fascination with the distance bridging capacity of the Access Grid would be better demonstrated with real-time video containing natural movement including birds, wind blown foliage, etc., something which was more than the inside of white walled offices which could just as easily have been down the hall.

*Outside/In: Part 1* was performed in November 2003 with participants in Boston, Alaska, Utah, Ottawa, and Maryland. The piece was a semi-structured event in which each participating group solved the issue of how to broadcast from outdoors in their own way and provided content that tied them to their physical environment. At Maryland, we used this as an opportunity to test the PIG in performance, running a laptop out the window of my office and broadcasting into the Access Grid Full Sail room from the lawn.

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<sup>149</sup> It is ironic that the piece was called *Outside/In*, for in many ways one could consider this liminal meeting space as reflecting characteristics of the ArtGrid community as well as the character's experience.



The performance was a relatively simple interaction between participants who listened to me read a passage on place, then added their own poem or song and visuals relating to their broadcast location to the mix. We found out that speaking in unison was extremely hard to do via the Grid. Alaska presented video of lights in the sky, Utah read a poem about the landscape, Boston sang the “Man Who Never Returned,” and Ottawa recited an original poem about the cold and showed the effects of snow on their bare hands. Maryland read an archival poem about the region.<sup>150</sup> Though the pieces were rehearsed at each site, participants (including myself as the coordinator) heard/saw them for the first time during our pot-luck joint performance.

The second project I staged locally as a member of the community was called *Outside/In (Part 2): Within these Walls*. This piece was a more fully formed production which was proposed to the group as follows:

We would like to continue working/playing with the idea of broadcasting from outdoors into the virtual/indoor environment via the Grid. We are seeking 3-4 collaborators who can broadcast an actress/performer reading poetry from an outdoor environment. The idea is to create a theatrical event based around the Grid’s ability to extend community and place. We will be using the mythology of Emily Dickinson and her poetry to make evident concepts of the individual freed from isolation in a contained physical location into the mental/spiritual possibilities of multiple natural places. Participants are asked to select poems and actions/interactions which appeal to them and fit within the framing script (which is open to group collaboration/editing).<sup>151</sup>

It was my intention to highlight the Place-expanding nature of the Grid by actually showing people in natural/variable environments rather than in front of another white office wall, and to do it in a way that the technology supported an artistic idea (the

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<sup>150</sup> Because of technical problems, over a cellular phone which was patched into Utah’s system.

<sup>151</sup> Nadja Masura, “Call for participants – Outside/In Part 2,” e-mail to Access Grid group, February 23, 2004.

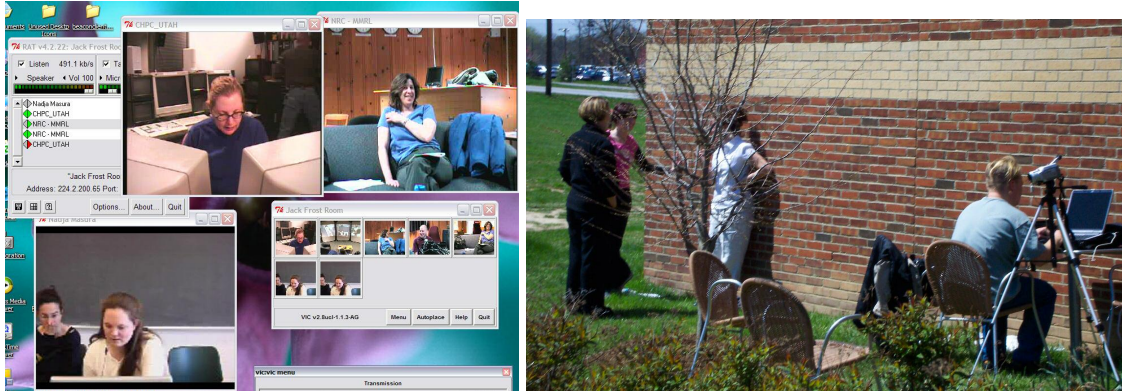
soul or creativity as a portal to nature/freedom). To this aim I created a script which utilized the idea of Emily Dickenson as a woman contained in an indoor space who reaches out to aspects of herself in different outdoor places for different life lessons suggested by a selection of poems grouped together interspersed with light dialogue. The concept of her as an isolated woman whose physical self was stationary and yet her mind/spirit was freed into/by nature—was a wonderful conduit to exploring the technology’s potential to transport individuals out of themselves, and to connect us to the possibility of the physical world that surrounds us. From one participant’s point of view, “The script of the production, based on poems of Emily Dickinson, fittingly explores our ability to transcend physical location, creating a vivid metaphor between imagination and technology, both of which serve as portals to experience new natural worlds and environments.”<sup>152</sup>

In the work I assumed the role of local coordinator which developed into writer, actor, and director.<sup>153</sup> Though the piece was intended to be an egalitarian collaborative with participants writing or selecting text, it ended up being a loosely directed, yet fully scripted short piece. Myself, two local actresses and two online actresses rehearsed via PIGs (locally in a classroom, and virtually on the Access Grid).

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<sup>152</sup> Anonymous participant, [http://iit-iti.nrc.ga.ca/new-neuf/2004/04-04-29\\_.html](http://iit-iti.nrc.ga.ca/new-neuf/2004/04-04-29_.html) (accessed December, 2003).

<sup>153</sup> After the call for participants was answered, I asked participants to choose a selection of Emily Dickenson’ poems that inspired them, but after a minimal response, I selected the poems and wrote a basic script around them.



*Figs. 69 and 70: The Outside/In rehearsal process. Screenshots and photo by author.*

The final performance was staged locally with participants sending video feeds in from Utah via the University of Utah’s Center for High Performance Computing; Ottawa via the National Research Council, Canada; and outdoors at Maryland via OIT’s Visualization and Presentation Lab (VPL), the Maryland Institute for Technology in the Humanities, and Theatre Department. With the technical assistance of David McNabb of OIT’s VPL and his mobile access node, we were able to receive and transmit from our local black box theatre as well as from my laptop PIG outdoors, and project the images on rear-screen projectors in the Theatre Department’s experimental theatre.

I performed live in Maryland as the main Woman, situating myself between two rear-projection screen with three other “She’s” videoconferencing into the performance space. This made Maryland the primary audience space, though the performance was viewed by multiple online Grid audiences who had different visual arrangements with their windows. The first interaction was between myself and the PIG outdoors at Maryland (only a couple hundred feet away, outside my office window) with two actresses. Lindsey Snyder performed on camera, signing, and Wendy Clupper provided the vocal readings of poems relating to finding freedom in nature. From there we went to Janice Singer in Ottawa, where the She 2 character spoke about inner fortitude and

surviving loneliness and death. Lastly, we brought in Beth Miklavcic from Utah who recited poems about love as she sat by a flowering tree. We concluded with the selves in conversation.



*Fig. 71: Outside/In performance at the University of Maryland. Photo by Peter Rogers, used with permission.*

There was a striking contrast between the enclosed space and the varied natural environments projected on stage.<sup>154</sup> As I had hoped, the outdoor places themselves were as disparate as their climates. In Maryland, we had green grass but no leaves on the trees; in Utah they had bushes full of foliage and flowers; in Ottawa there was no growth—just bleak winter branches. The performance clearly demonstrated the geographical differences in climate which reflected various stages of Spring/nature. Upon viewing the outdoor environment from a warmer climate while at the outdoor technical rehearsal, one initially skeptical collaborator remarked: “Hey, there’s grass...wow...there are blooms out there!” To which I responded laughingly: “that’s the point!”

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<sup>154</sup> In Maryland, we had green grass but no leaves on the trees; in Utah they had bushes full of foliage and flowers; in Ottawa there was no growth—just bleak winter branches.

It was satisfying to see multiple sites in nature, and get a sense of bringing the outdoors into the contained black box theatre virtual node. The piece highlighted the visual differences in actual places linked in real-time through video-conferencing into a

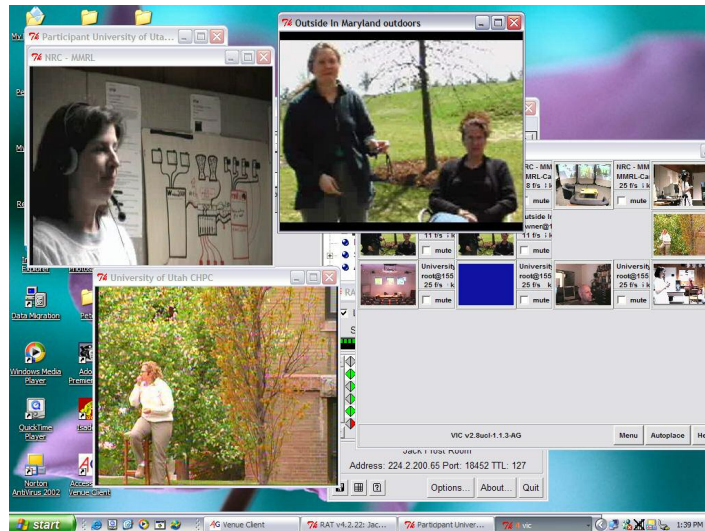


Fig. 72: *The Outside/In rehearsal process. Screenshot by author.*

multiple or multi-layered place. It is the green of the grass contrasted with the bare branches elsewhere—the passing of a bird or student hurrying to class—which makes place real and present in the performance as both scenic and real elements.

*Outside/In* demonstrated multiple places (actual outdoor sites) co-existing as scenic (and real) place, but it also served to bring me into the performance community in an important way. The process of creating our own work (surmounting technical, logistical and aesthetic challenges) and the facilitation of the dialogue or talkback that followed between local and remote audiences/participants gave me confidence in my place as an active member in the ArtGrid community, as did my later participation in *InterPlay*, which has become the central performance of the ArtGrid community.<sup>155</sup> The

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<sup>155</sup> My sense of inclusion was strengthened by positive feedback from the group, being included in articles, presentations and grant proposals, and by a perceived change in dynamics once the buzz of activity had passed. One group member wrote me with familiarity, having seen a posting on another

importance of talkbacks can be seen in the demonstration of the distance between physical places and the realtime interaction of videoconferencing. George Coates, reflecting on his experience with his show, *Nowhere Band*, observed that the only time the audience really believed other participants were at different sites was when there was a problem with the equipment, while David Saltz observed, “Telematics acquires its greatest impact when the spectators are given the ability to interact directly with people at the remote site, and thereby can experience the uncanny collapse of space first hand.”<sup>156</sup> These talkbacks are an essential part of ArtGrid performances.



*Fig. 73: The Outside/In post-show talkback. Photo by Peter Rogers, used with permission.*

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listserv, saying: “it was nice to see your name pop up this morning.” Kenneth Emig, e-mail message to author, May 6, 2004.

<sup>156</sup> Saltz, “The Collaborative Subject: Telerobotic Performance and Identity,” 74.

## ***InterPlay: Devising/Collaboration in Action***

Because *InterPlay* has become such a central event for the ArtGrid community I will be discussing it in greater detail.<sup>157</sup> The *InterPlay* performance process is directed and created by Jimmy and Beth Miklavcic through Another Language, and the Utah Center for High Performance Computing.<sup>158</sup> The first performance, *InterPlay: Intransitive Senses*, was broadcast onto the Access Grid, but staged only at University of Utah.<sup>159</sup> *InterPlay* has grown considerably, and so has the ArtGrid community. Initially there were three sites participating in the second *InterPlay*: Alaska, Utah, and Maryland. Later this grew to include six institutions (including Boston University, The Arctic Region Supercomputing Center at the University of Alaska, Fairbanks, The Center for High Performance Computing at the University of Utah, The National Research Council, Ottawa, Canada, and The University of Maryland) and another six (including The Envision Center, Purdue University; The University of Montana; The Electronic Visualization Laboratory, University of Illinois, Chicago; and Ryerson University).

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<sup>157</sup> *Interplay* is by far the most central performance event in the Art Grid community. The *Interplay* series is seeing growing coverage from the *Journal of Higher Education*, greatdance.com, and via recent performances at the Siggraph and Supercomputing conferences in Summer/Fall 2006, as well as being finalists for the Peoria Prize.

<sup>158</sup> Jimmy Miklavcic is, in my opinion, perhaps the central pivot and organizing force in both *Interplay* and the ArtGrid community. In addition to creating the ArtGrid (theatre) venue of multiple Access Grid online meeting rooms, he also creates the overall outline or dramaturgy for the performances along with Beth Miklavcic, oversees technology problem-solving conversations between various sites, and conducts the final audio-visual mix.

<sup>159</sup> *Interplay* is coordinated and directed by Jimmy and Beth Miklavcic (at the University of Utah), and began in 2002 with *Intransitive Senses*. This piece consisted of artists, poets, musicians and other performers involved in a tea party installation videoed by camera people in multiple performance rooms in one building at the University of Utah and transmitted to a fairly large Access Grid audience (of which I was one). The next year the program experienced gradual growth as *Interplay* took its first steps into involving other institutions.

Both the process and the product are unique outgrowths of the collaborative online environment (the Access Grid). Each site responds to the call for participants by interpreting the given theme in their own way with various artistic and technology resources available to them. The mixture of disciplines is as varied as the members present including artists, musicians, poets, performers, technologists.

In the *InterPlay* series, Jimmy Miklavcic takes video streams from each participating site and integrates them into a main “mix,”<sup>160</sup> which is then broadcast over the Internet. The mix itself, and the other performance video streams which can be viewed by numerous online or gathered “local” audiences, are different each time. Because no one audience (or performance venue) can view the same thing, or even the totality of the event, and the combined feed or main mix is manually improvised, each viewing varies, highlighting different aspects of the total performance. One night one scene may heavily feature images from one site, and in the next moment—another.<sup>161</sup> It is exhausting to perform and to watch, but it is also exhilarating. *InterPlay* stretches the audience to watch. As Jimmy likes to say, “there is no way you can see the whole thing.”<sup>162</sup>

Through technology, disciplines combine: a sculptor in Utah, a cellist in Boston, percussionists in Alaska, visual artists working with animation or video (in Illinois,

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<sup>160</sup> “Kristine Diekman: Finally, the ‘master-mixer’ sends it out, and the stream itself, with its bandwidth limitations, finishes up the job.” Farman, “Streaming the Performer’s Body,” 98.

<sup>161</sup> Images of giant books, a cellist and a Zen garden, images of water, faces overlap with places and bodies fill with other forms and places, hands swimming through hamburgers, rhythms from Alaska, graceful animations of blue floating boxes, people swimming through space, dancers triggering words hundreds of miles away, virtual reality environments—all of these happen and combine in a seemingly random, fluctuating flow.

<sup>162</sup> Jimmy Miklavcic, in his introductions to numerous productions, including *Hallucinations*, (2004), and *Loose Minds in a Box*, (2005).



Alaska, Maryland), a violinist/programmer in Montana, writers/theatre performers in Maryland and Utah, and dancers/movers in multiple states. We meet, discuss, rehearse, and perform through the Access Grid and our art and experience of art-making is shaped by the individuals which make up the collective process. It is truly mediated interdisciplinary collaboration in the fullest (most chaotic) and richest sense.

Generally I have coordinated University of Maryland's contribution to *InterPlay*, but I have also contributed dance/acting performance, compositional/staging ideas, video content, and text.<sup>163</sup> Because our local resources are limited and the area of expertise in the performing arts, much of what we tend to contribute revolves around the body of the performer in space.<sup>164</sup> Thus far we have participated in four consecutive annual original performances of *InterPlay* including: *Hallucinations*, *Loose Minds In a Box*, *Dancing on the Banks of Packet Creek*, and *Nel Tempo di Sogno*.

### ***Hallucinations***

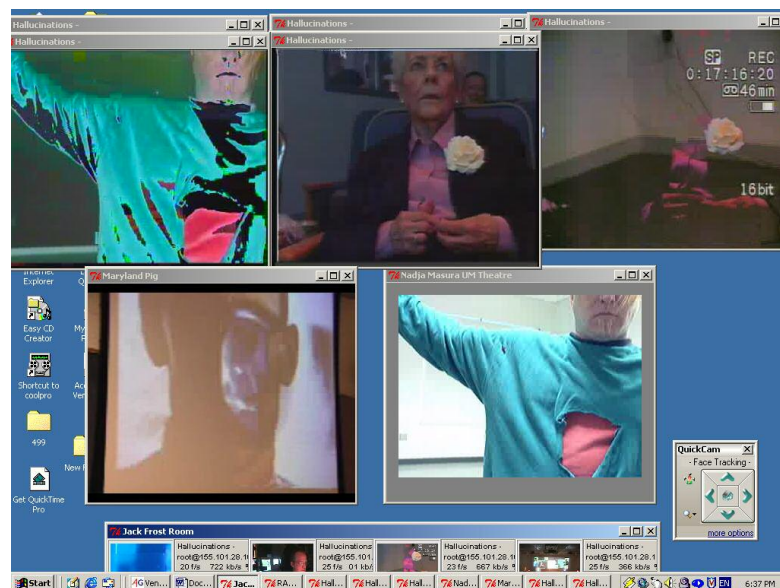
*Hallucinations* (2004) was a real-time surreal mix of image, sound and movement suggesting both a psychedelic state of mind and the impact of social perceptions of identity, consumerism and control. In *Hallucinations*, Brian Buck and I from Maryland joined Scott Deal and Miho Aoki from Alaska at the Arctic Region Supercomputing Center to form a creative tripod with Utah's flash animation, and multiple room and

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<sup>163</sup> This includes technology setup/testing/purchasing, concept creation, attending meetings/rehearsals, finding a space, any casting, stage managing, problem-solving, etc.

<sup>164</sup> Since my first performance at Maryland I have referred to my internet performance research and praxis in terms of plural forms to acknowledge the participation of local collaborators, although to this date none of these events have occurred without my coordination, performance and collaboration. In the future UMD's participation in the ArtGrid or *InterPlay* may continue without me, but up to this point they have occurred through the grace of local participants such as Paul and Moira Jackson, Brian Buck, Peter Rogers, and my own sheer dogged determination and commitment to this developing art form and community. I often comment that my greatest attribute has been my sheer will and perseverance in the given situation of limited technology, funding, or personnel/space resources. Again I offer thanks to Paul Jackson and the Dance Department for their support in the last couple of years.

camera POV staging of a piece on identity and cultural stereotyping, “The Surface of Things.”<sup>165</sup> Brian contributed dance choreography inspired by the Möbius strip, I contributing Max/Jitter-controlled video clips merging consumerism and politics, Scott and Miho contributed complex ethereal computer animation and live electronic procession respectively. Altogether there were three mixed channels and seven feeds altogether, which of course could be joined by any number of windows at remote audience locations. These feeds were mixed together by Jimmy in Utah.



*Fig. 74: Screenshot of Hallucinations. Screenshot by author.*

As a collaborator and partner in the creative project, I felt as if this were a very balanced creative experience; Brian danced to Scott’s Music, Jimmy mixed Miho’s animated hands and my hamburger commercial, Brian danced back and forth to the pedestrians forever caught in a recursive loop walking up the Lincoln memorial steps, and Beth’s words and the image of the imposing bald executive blended with Brian’s

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<sup>165</sup> For more information see <http://anotherlanguage.org/art/interplay>.

eyeball or a giant Barbie doll or an American Flag. It all just seemed to work, having its own sort of radical slippery logic. (See Appendix F: ArtGrid).

At the same time each site was exploring this type of collaborative improvisational mediated online performance for the first time. We were all testing out the new art form; collaging of images, and reacting to the sounds and shapes created by others. With everyone reacting to multiple stimuli and creating mediated art with people hundreds of miles away in real-time, in performance there was a sense of it being electrically charged, as if the real event was taking place in a unnamed virtual/interstitial intersection between us. I would liken this to a sense of *communitas*.<sup>166</sup>

### ***Loose Minds in a Box***

The next year the series experienced a growth spurt, with six total sites participating. As *InterPlay* grew to include additional sites, it evolved in computer, artistic, and practical complexity (including creating a simple color-coded dramaturgy, and scheduling rehearsals). *Loose Minds in a Box* included VR from the Electronic Visualization Laboratory at the University of Illinois at Chicago, a performer in a motion capture suit sending data which triggered a MIDI patch written in Montana which played back (at varying speeds, pitches, directions, and voice tracks) a poem I wrote. The show included animation from Alaska and a sound duet between Scott Deal in Alaska and Charles Nichols in Montana, and multiple dancer/movers in Maryland mixed into to the visual scene with Beth blue-screened in Utah and the motion-capture dancer in Perdue. (See Appendix F: ArtGrid).

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<sup>166</sup> In the sense of Turner's "instant of pure potentiality," Turner, 44.

The work was mixed live from multiple feeds into one central stream which was broadcast online as well as over the Access Grid, where multiple windows could be displayed and arranged by any Grid audience site. The immensity of the project, lead to Jimmy to call it an “earthwork”<sup>167</sup> to express the idea that no single audience could grasp the totality of the same whole event.

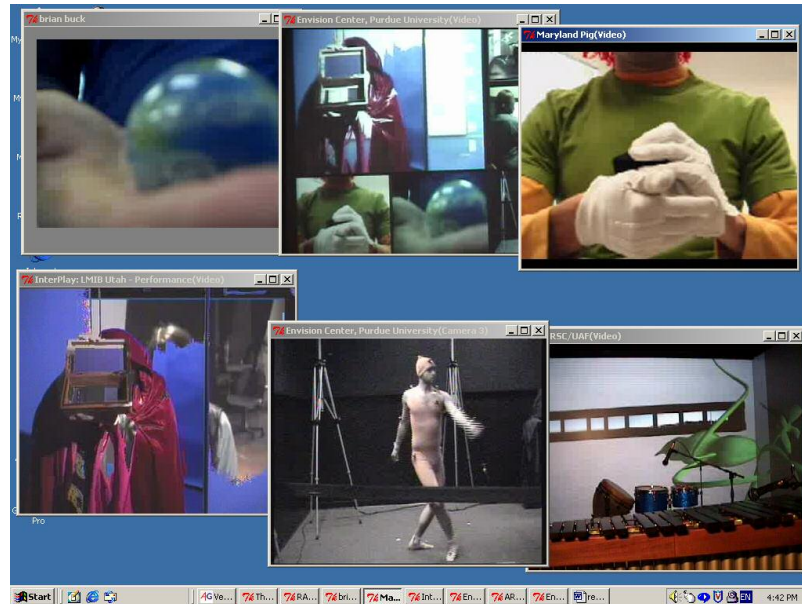


Fig. 75: Screenshot of Loose Minds in a Box. Screenshot by author

The starting point of each *InterPlay* performance began with a title or theme to be interpreted by each site and submitted to the total process. Our interpretation of *InterPlay: Loose Minds in a Box* was the idea of social roles as societal boxes in which we put ourselves. Locally, we were sending images of four dancers (myself included) among physical objects of child’s play such as a doll house and oversized colored building blocks. These blocks were actually boxes from which we removed brightly

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<sup>167</sup> This brings to mind the issue of naming the event, as a defined quantity, with specific qualities, and the implications of either borrowing terms from sculpture, cinema, and theatre, a live performance form. Jimmy’s definition is notably different from author Maureen Korp’s definition: “Earthworks are architectonic constructions sited out of doors. Constructed on the site itself, the earthwork is often made of humble if not ephemeral materials—dirt and wood, found boulders, grasses, and trees—rather than of bronze or marble.” Maureen Korp, *Sacred Art of the Earth: Ancient and Contemporary Earthworks* (New York: Continuum, 1997), 19.

colored costumes which we layered on haphazardly (following Beth Miklavcic's idea that there be "dressers"), adopting certain social roles as our garments changed.

Our presentation of these themes was primarily through physical performance due to our limited technology resources. However, I did try to have the Access Grid audience dress me by typing in colors into the MUD or textual interface. When users responded to the prompt: "audience, dress Nadja, choose a color," Moira would put a garment on me which corresponded to Red, Yellow, Orange, Green, Blue or Purple. Though the experiment was only carried out for a few performances, it did demonstrate a modicum of telematic interactivity and raise interesting questions about the agency of the audience over that of the performer.

### ***Dancing on the Banks of Packet Creek***

In 2006's performance, *InterPlay: Dancing on the Banks of Packet Creek*, again with six participating sites, the amount of video streams sent out was tremendous (and perhaps even overwhelming). Participants included the University of Alaska Fairbanks, Boston University, University of Maryland, Purdue University, University of Utah, and Ryerson University-Toronto in Ontario, Canada. Perdue provided motion triggering; there was a cello and Zen gardening duet wrapped in string joining Boston and Utah; Utah also had performers in multiple venues such as staircases and an artist creating sculpture out of books; Alaska had a class involved in playing percussion and an Irish jig as well as animations this time from multiple sources; and from Maryland we had three to four performers, spoken words, and video of water I had been shooting (mostly in Maryland and California), and images of rivers from space using Google Earth. Truly, this was an immense undertaking, an event which was growing beyond the scope of



At this time I'd like to not only tell the reader about the fifth *InterPlay: Nel Tempo di Sogno*, and how it both resembled and differed from previous *InterPlays*, but also discuss the interrelationship between the ArtGrid community and *InterPlay*, as well as make some general observations about the performance (and performative) online community. As a complete work, the play corresponded to Dan Zellner's playwright model of digitally enhanced theatre.<sup>168</sup> *InterPlay: Nel Tempo di Sogno* (2007) was a fully scripted collaboration, much more structured than any other previous incarnation of *InterPlay*. This likely grew out of the numerous exuberant and unpredictable video feeds the year before which maxed out Jimmy's ability to mix the video streams with a sense of repeatability. This year the online performance swung from one end of the creative spectrum to the other; from being an improvised art event to a theatre production, and in the process it both gained artistically and lost a devising uniqueness. Both the artistically and collaborative (communal) aspects of the project need to be discussed.

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<sup>168</sup> In the playwright model, "The Playwright designs the space, sound, movement (to varying degrees), smell, and sight. The playwright lays down the blueprint for the space or the field." Dan Zellner, "Definitions and Directions of the Theatre," in *Theatre in Cyberspace: Issues of Teaching, Acting, and Directing*, edited by Stephen A. Schrum (New York: Peter Lang Publishing, 1999): 21.

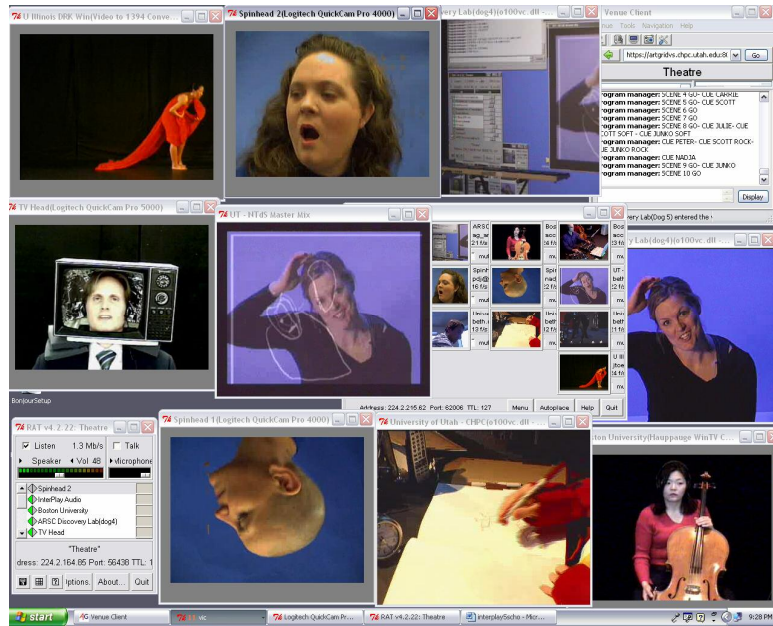


Fig. 77: Screenshot of *InterPlay: Nel Tempo di Sogno*. Screenshot by author

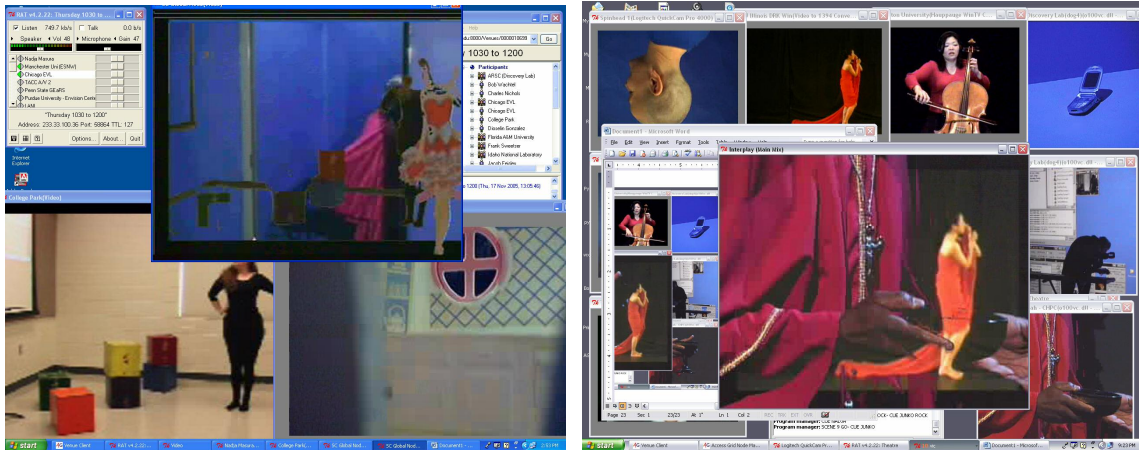
The production was billed as “a forty minute, live, distributed surreal, cinematic exploration in the ever-elusive passage of time.”<sup>169</sup> The work was fully scripted, showing more similarity to *Outside/In* or *Compass Points in Elements*,<sup>170</sup> in which a series of characters spoke monologues with connections between them. The script was written first by Beth and Jimmy Miklavcic and their Utah performers then by online collaborators. The scripting lead to a more polished online theatrical production, which was one of the most interesting (engaging in the sense of having a narrative) of the *InterPlay* performances to watch, and was the most enjoyable to perform. However, due to the predictability of actions (a sign that rehearsals and scripting worked well and the activities which happened on camera happened on cue), the mixing of the video from night to night was less unique and inventive. I was able to predict when Jimmy would mix things in real-time to create and recreate collages in the main mix. This was both

<sup>169</sup> Beth and Jimmy Miklavcic, playbill for *Interplay: Nel Tempo di Sogno*, March 30, 2007, Another Language Performing Arts Company.

<sup>170</sup> *Elements* will be discussed in further detail in the conclusion and digital component of this dissertation.



positive and negative, as many times in earlier productions I had hoped he would composit images more consistently. However, the repetition somehow degraded the sense of uniqueness and theatricality (although theatre performances are usually very rehearsed and, for the most part, predictable); making the effort seem somehow more cinematic, less seemingly “on the fly,” in the moment, or real-time.



*Figs. 78 and 79: An earlier InterPlay (Loose Minds in a Box) and the most recent one (Nel Tempo di Sogno). Screenshots by author and Peter Rogers, used with permission*

It was clear in both the process and the product that this *InterPlay* was a directed play rather than the earlier freeform improvisational interplay between collaborators. As the product quality increased, the process became less collaborative. Beth Miklavcic did an excellent job of shaping a compelling series of vignettes, and collaboration was still an important aspect of the piece; some of the performers online wrote the text they spoke (including Peter Rogers in Maryland and Carrie Baker in Alaska), and much of the music was worked out between participants at different sites.<sup>171</sup>

<sup>171</sup> However, I was somewhat disappointed by the level of artistic input and the lack of group or whole community meetings. As a past collaborator, I found the level of my participation to be restricted by the technology at my site and by the director’s vision. It seemed that the free exchange of ideas was no longer the primary purpose of the enterprise, in favor of professional looking art-making.

However, the increased quality of the artistic product may have negatively impacted the earlier ideal of egalitarian collaboration (the essence of the ArtGrid community).<sup>172</sup> For efficiency, communal meetings were replaced with production meetings. Idea exchange diminished, and when meetings began to be held in sections, the process was isolating until we reached the final week of rehearsals.<sup>173</sup> Musicians met separately from artists (who met directly with the directors) and online performers who were scheduled to meet with each other and collaborate, now only met individually with Beth or Jimmy. Artists became scenic artists, visually interpreting the director's vision. No longer were artists talking to musicians talking to performers; sharing ideas, sounds, images, impressions across the disciplines. The interdisciplinary free exchange of ideas (at the core of egalitarian devising/collaborative creation) seemed as though it was being put through an aesthetic filter.<sup>174</sup> The community interaction appeared to have significantly decreased between members of different disciplines and locations. It had become more like a traditional theatre production with highly specialized roles and less creative interplay between disciplines.

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<sup>172</sup> The first sign of this was when the ideas behind script (though it became the central element for coordinating the performance action) was not released to the community sooner and the meetings to gather ideas for the performance began in late winter rather than early fall.

<sup>173</sup> Formerly, asking about video/MIDI, or my interactions with animator Miho Aoki and musician Scott Deal in Alaska, with whom I had been working for four years, were the some of the best parts of performing. I had looked forward to doing some movement performance with Karen and new members, and missed the opportunity to sing with instead of just prior to Junko in Boston. In addition to technical and time restrictions, the scheduling of separate meetings minimized this creative interchange.

<sup>174</sup> The sharing of ideas across disciplines is essential to this type of collaboration, to find the synthesis between the art forms and styles involved. I have always valued the exchange with others, the process of throwing ideas out and seeing what flies. In the community, ideas circulate. In *Interplay: Dancing on the Banks of Packet Creek*, I suggested the idea of drawing live on the screen by mixing the output of a graphics program like Photoshop with the real-time image of a dancer. This year I suggested it again and the idea was picked up and executed by artists in Alaska. I was disappointed that I was not able to do the drawing myself and that they forgot that the idea originated as my desire to perform the act of drawing (art as a performance), but I was delighted that it happened and that it looked amazing.

This is not to say that directorial vision is not an appropriate and even beneficial influence on ArtGrid or even *InterPlay* performance, or that Jimmy and Beth Miklavcic were unaware of their roles in this production as directors; but it is to say that directorial control and egalitarian idea sharing seem to be (if not mutually exclusive then) at odds. In their work on devising, Heddon and Milling ask, “Does a director, who ultimately has the last word, who accepts final responsibility, complicate the notion of non-hierarchical work or democratic participation?”<sup>175</sup> Perhaps. Within the past two years Jimmy tried to make an important distinction to the community that *InterPlay* was their project, staged out of Utah, and that while members of the ArtGrid community would be (conditionally) invited to participate, ArtGrid and *InterPlay* were not the same thing, and separate mailing lists were established.<sup>176</sup> However, what Jimmy did not take into consideration was that *InterPlay* may have already become the major manifestation of the ArtGrid community, given the amount of effort put into it by all sites involved.<sup>177</sup> And as other types of performances/art events began to become less frequent and monthly ArtGrid (non-*InterPlay*) meetings for the most part ceased, to some degree to belong to ArtGrid meant to participate in *InterPlay* and vice versa. The two had intertwined.<sup>178</sup>

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<sup>175</sup> Heddon, and Milling, *Devising Performance*, 5.

<sup>176</sup> Due to the increasing popularity of the event, and increased pressure for artistic and technical developments from Another Language’s funders, new and old participants were obliged to meet certain increasing technical, local audience, and other criteria. This put pressure on us locally because of the lack of significant departmental support which larger, more established sites had. I thank Jimmy and Beth Miklavcic for allowing us to continue to perform and study the group and process despite our audio and video challenges.

<sup>177</sup> *Interplay* mailing lists create much more traffic than ArtGrid. At one point last fall Scott Deal from Alaska had volunteered that they wanted to do their own performance in the spring, Jimmy encouraged that idea, but later indicated that *Interplay* would be on certain dates, and for whatever reason, Alaska’s performance never materialized as more than a verbal (not written) call for participants.

<sup>178</sup> *InterPlay* performances contain the largest number of sites performing in theatrical interactions on the Access Grid.

What does this mean for the future of ArtGrid as a utopian community, a happy no-place or cyber-place configured through its members participation and open, egalitarian exchange through collaborative creation (the production of performances)? Neither I nor anyone else can definitively answer this question; for as noted earlier, communities are societies in process, and I am just one participant-observer, one member of this community and others may experience events differently. With this said, as long as the ArtGrid community participates in meetings and events of collective creation and open collaboration, whether they be *InterPlay* staged out of Utah, or works staged from other locations, or better yet, works staged in multiple cyber-places; it will remain a strong and active community.<sup>179</sup> Collaboration, and e-mailed calls for participation, remains the cornerstone of ArtGrid. There is continued evidence that works including and other than *InterPlay* will continue to develop, each with unique aesthetics, themes, and structures. Last spring, in the local production of *Elements*, Jimmy and Beth Miklavcic participated (from Utah) in the scene I directed, “Earth.”<sup>180</sup> We all rehearsed and performed together via the Access Grid. And this Spring, after our final *InterPlay* performance, a participant (perhaps from Illinois) called out, “Thanks Jimmy, we had a great time. Next year we are going to do it again, and next year we are going to do a performance of our own, and you’d better participate.” To which Jimmy laughed and replied, “o.k.”

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<sup>179</sup> “Community should be viewed as a delicate relation between fluid processes and relatively permanent rules of belonging and association (like those formally imposed by the nation state).” Harvey, *Spaces of Hope*, 240.

<sup>180</sup> The script *Compass Points* was written as monologues and short thoughts on personal interpretations of place or lived places (geography experienced from memory and the senses), then I stitched them together into a patchwork of overlapping life experiences.

## Conclusion

Through looking at these examples of the mediated improvisation, the digital puppetry of GSRT's mixing performers in different locations onto one body silhouette, the global networked choreography of *World Wide Simultaneous Dance*, and multi-site collaboration of the ArtGrid community it is clear that distant places can be linked into one performance place, a cyber-place. It is through the formation of these cyber-places which materialize through the shared interest (in their formation), that community is formed around the process and experience of performance. Thus cumulatively, these works of Digital Theatre demonstrate the presence and value of cyber-place-communities. They offer models for collaboration across the globe, mapping out possible utopias, or happy no places, or place in formation and community in process.<sup>181</sup> Through these unique, unbound places; imaginative new ways of working together are born as ideas become the actions and foundation for community. Networked performance and art creates a sense of Place and a potential for change; "cyberplace possesses...strengths 'real' places do not possess...its nature is to connect people..."<sup>182</sup>

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<sup>181</sup> To quote Oscar Wilde, "A map of the world without Utopia is not worth glancing at." Oscar Wilde in Lippard, Lucy, *The Lure of the Local: Senses of Place in a Multicentered Society* (New York: The New Press, 1997), 290.

<sup>182</sup> Laura Knott, "World Wide Simultaneous Dance: Dancing the Connection between 'Cyberplace' and the Global Landscape," *Leonardo*, 34.1 (2001): 15.

## Chapter 8: Audience Participation and Creative Community

*What happens to a performance when the usual agreements between performer and spectator are broken?*<sup>1</sup> ~Richard Schechner

In the last chapter we talked about the simultaneous creation of cyber-place and community through performances which join performers in many locations via teleconferencing technologies. This chapter will focus on the impact of digital technology on audiences, and the way that audiences are expanded by technology and are given agency to become participants and even performers through technology.

This chapter will address a sense of interactivity and audience participation created through blurring the role of audience with those of author, sceneographer and director. In a sense digital technology facilitates participatory interaction, allowing the audience to become co-creators, and ultimately members of the creative community producing the performance. In some cases Digital Theatre audiences become authors by participating in shaping the dramatic text through online messaging or interactive feedback forms, in other cases, they contribute other types of audio and visual content.

I will discuss some historical examples of theatre forming communities and audience participation before moving on to a discussion of audience expansion. I will then show some examples of the audience as authors, including *Crazy Wisdom Sho* (George Coates Performance Works, 2001), and the *Living Newspaper 1935/2001* (University of Georgia, 2002), before discussing the audience as scenographers, using *M@ggie's Love Bytes* (Motherboard, 1995-1999) as an example. I will then examine the

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<sup>1</sup> Richard Schechner, *Environmental Theater* (New York: Applause, 1972), 40.

role of telematics in the creation of a sense of virtual community through participation, before looking at Virtual Reality (VR) environments which require the audience to behave as participants to drive the action, including the virtual Digital Theatre example of *Wings* (University of Kansas, 1996). Each of these examples is extending both a sense of agency and creative community outside the accepted theatrical structure of definite author, actor, and audience role separation.

Before continuing with these examples, I would like to return to the idea of community and address the ways in which community and theatre audiences and participation (and interactivity) intersect.

### ***On Community***

People are drawn into acts of participation by the word *community*. Once present at an event or communal interaction at a given meeting place, individuals often precede with a heightened awareness of their presence in relation to others (or to the imagined larger group), and go about the group activity with varying levels of being aware that their presence (and participation) is part of forming the community. As individuals begin to sense their part in a larger whole, community is actualized. I would like to suggest that participation in common interest activities, like performance, creates community, and therefore online and other mediated audiences who participate in a creative act or performance become part of not only the temporary community of “audience,” but also become part of the creative community of that work for a period of time.

Because of the relative historical uniqueness of Digital Theatre performances including technologically mediated audiences, I will now include a very brief historical/contextual background on both audience participation and on broadcast as they

relate to creating digital or online audiences (empowered agency via interactive input). I will mention earlier uses of audience participation, reenactment, and content created through group collaboration as well as references to community created, strengthened, or manifest in the audience and its relationship with the action on the stage and in the theatre space.

### **Historical Examples: Audience, Community, and Participation in Theatre**

Throughout history we can find theory and practice pointing to the importance of theatre in forming community, often in the form of imparting morals or building a sense of group membership such as nationalism.<sup>2</sup> As far back as the ancient Greeks we can see theatre as a forum for civic pride and the bonding of community in the form of the collected members of the polis.<sup>3</sup> One of the most booming examples of the voice of theater for creating community, is Wagner's statement for the Volk. "...*The Folk*, will no longer be a severed and peculiar class; for in this Art-work we shall all be *one*..."<sup>4</sup>

Today community theatre, community-based theatre, and the invocation of "community" in theatre has influenced the creation of new forms of performance which involve the community in the composition as well as the performance new works relating

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<sup>2</sup> Theatre has moved through periods of intense audience participation (Living Theatre, Boal's or guerrilla theatre), community produced performances (dating back to mystery plays, and back ancient Greece as a focusing point of community), the use of performance as a political tool to reevaluate community values (evidenced by provocative performance artists and staged plays alike), and theatre as recreation (community theatre, summer-stock) etc, and of course there are myriads of international performance and ritual models which involve the spectator as a community members in numerous ways. See Eugene Van Erven, *Community Theatre: Global Perspectives* (London and New York: Routledge, 2001): 2.

<sup>3</sup> Brockett, Oscar G, and Franklin Hildy, *History of the Theatre*, Ninth edition (Boston: Allyn and Bacon, 2003), 19.

<sup>4</sup> Richard Wagner, "The Art-Work of the Future," in *Dramatic Theory and Criticism: Greeks to Grotowski* by Bernard F. Dukore, 777-794 (Fort Worth: Holt, Rinehart and Winston, Inc., 1974), 780.



to their shared experience.<sup>5</sup> There are hundreds, if not thousands of examples of performances growing out of communities, involving communities, invoking the concept of community.

Community is also an essential a part of being an audience. The construction of temporary community can be quietly sensed when the audience is hushed by the gentle dimming of the lights in a theatre—aware in the moment that we must each, as individuals, put aside our private activities and focus our attention on the stage.<sup>6</sup> A sense of community is also manifest in more boisterous audience responses and direct involvement.

Audience is an essential part of the theatrical performance. As Gay McAuley notes, “If the event can be defined as what takes place between performers and spectators in a given space and time, then the spectator has to be seen as a crucial and active agent in the creative process.”<sup>7</sup> The theatrical event is not complete without individuals gathered into a group, a temporary community, without the interaction and feedback from a “live” co-present audience.<sup>8</sup> Many theatre theorists and practitioners have commented

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<sup>5</sup> This was evidenced by the recent Association for Theatre in Higher Education (ATHE) 2006 keynote address calling for new forms by Moises Kaufman, whose group, Tectonic Theatre, composed the now famous Laramie Project, interview and oral history based methods for collecting narratives and accounts of ‘events, people and place,’ attempts to draw a complete and often contradictory composite of the collective experience of a community. Moises Kaufman, keynote address, Association of Theatre in Higher Education conference, Chicago, IL, August 3, 2006.

<sup>6</sup> On July 17, 2006, at the National Theatre in London, England, I experienced this distinct moment, which was magical. There was, and is, a perceptual shift between “I” and “we,” when, as audience members, we give over our right to speak, eat/drink, rustle candy rappers. Looking around the auditorium for a brief second, you could see the transition occur; before the stage action begins, our focus shifts from individual to collective, we are mutually aware of each other and our unspoken agreement to form an audience, as each willingly conforms to the conventions of silence and attention.

<sup>7</sup> Gay McAuley, *Space in Performance: Making Meaning in the Theatre* (Ann Arbor: University of Michigan Press, 2000), 235.

<sup>8</sup> “In the theatre, people gather to see other people perform. The simultaneous presence of both performer and audience is usually considered to be a fundamental characteristic of the theatre event, and

on the (implicit) relationship between performers and the audience, even documenting audience responses.<sup>9</sup>

Audiences are formed by their presence in a given space, usually called a theatre.<sup>10</sup> In many cases theatre auditoriums, define the group of listeners/viewers as an audience and the structure defines their range of (expected) behavior. Susan Bennett in her book, *Theatre Audiences: A Theory of Production and Reception*, writes,

In the playing space itself, the area designated for the accommodation of the audience is obviously of central importance. As Hays suggested, it determines not only the physical and perceptual relationship of the audience to the stage, but the actual number of individuals who become the audience as group.<sup>11</sup>

While the impression of dignified distance suggested by high theatre is that of separation between stage and house and the resulting creation of a collective group which (ideally) behaves with decorum, many authors insist on the importance of the audience's

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crucial to the strong effects it can produce. The performer is 'live' - is present right there - before the eyes of the audience; a living body, exposed to our look." Maaïke Bleeker, "Disorders that Consciousness Can Produce: Bodies Seeing Bodies Onstage," in *Bodycheck: Relocating the Body in Contemporary Performing Art*, edited by Luk Van den Dries, Maaïke Bleeker, et. al., 131-160 (Amsterdam and New York: Rodopi, 2002), 131.

<sup>9</sup> "In Martin's model there are two bodies: that seeing and feeling in the auditorium, and that seen as a spectacle on stage. The gap separating them is bridged by an instantaneous mapping of one body onto the other within the act of looking." Maaïke Bleeker, "Disorders that Consciousness Can Produce," 138; See McAuley, *Space in Performance*, 238.

<sup>10</sup> "Theatre consists of human beings in a defined space watched by other human beings, and it is this reality that constitutes the basic apparatus of the nature of the defined space has varied greatly from age to age and culture to culture, and, where there is no formal definition (e.g., as in street theatre), the spectators will make their own by virtue of the positions they choose to occupy." McAuley, *Space in Performance*, 239; "Something in the very liminality of theater, in its suspension from the common distractions of everyday life, allows even an audience of strangers to be receptive to emotion. Bentley continues his wonderings about theatrical intimacy: '... At eleven o'clock, when the actor drops his role, he stands revealed as a man, but when the audience drops its role, it vanishes. These people leaving the theatre are not 'audience': they are Smith and Jones to whom the actor did not address himself.'" Jill Dolan, *Utopia in Performance: Finding Hope at the Theater* (Ann Arbor: University of Michigan Press, 2005), 27.

<sup>11</sup> Susan Bennett, *Theatre Audiences: A Theory of Production and Reception* (London and New York: Routledge, 1990), 140.

collaborative role as active listeners interpreting the “live” theatre event.<sup>12</sup> Audiences vary in size and behavior, they are as unique as the conditions which form them (event, place, individuals gathered).<sup>13</sup> According to Bennett, theatre is not monolithic, and many critics do not take into account the shifting role of the audience in many forms of theatre:

As we have seen, non-traditional forms of theatre practice have involved audiences in all stages of production, and have sought (rather than allowed) a central role for the spectator... The audience, by its physical presence as a group, is bound to the institution which produces theatre, and, while Dayan and Katz suggest a generic audience for spectacle, the situation is really more complex.<sup>14</sup>

Nonetheless, the co-present audience indicates some level of participation or involvement by the group through their collective presence.

Even before modern theatre forms such as environmental theatre began to include more extreme examples of audience participation, there have been periods of notable audience participation.<sup>15</sup> In addition to the communal lifestyle and extreme (even sexual)

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<sup>12</sup> See Bennett, *Theatre Audiences*, 141, 148-149; and David-Michael Allen, “The Nature of Spectatorial Distance in VR Theatre,” in *Theatre in Cyberspace: Issues of Teaching, Acting, and Directing*, edited by Stephen A. Schrum, 1-6 (New York: Peter Lang Publishing, 1999), 245.

<sup>13</sup> Size: “One body to an-other. Spanning time, sharing space, marking place, blending breath, sensing touch. An emerging inter-face addresses both parties in this mise-en-scene of togetherness... One to One performance foregrounds subjective personal narratives that define—and seek to redefine—who we are, what we believe and how we act and re-act... in One to One we are lifted out of the passive role of audience member and re-positioned into an activated state of witness or collaborator, or more subtly energized into ‘acting’ voyeur.” Rachel Zerihan, “Intimate Inter-actions: Returning to the Body in One to One Performance,” *Body Space and Technology* 6 (2006), <http://people.brunel.ac.uk/bst/vol06/rachelzerihan/zerihan.pdf>, (no pagination). “While Grotowski has stated that it takes one spectator to make a performance, theatre productions generally seek a much larger audience.” Bennett, *Theatre Audiences*, 140. Behavior: “The silent watching of theatre as spectacle exemplified this withdrawal of the subject from an earlier more ‘carnavalesque’ performance in which the line between actors and audience had been socially and spatially demarcated less clearly.” Ken Hillis, “Human.Language.Machine,” in *Places Through the Body*, edited by Heidi J. Nast, and Steve Pile, 52-71 (London and New York: Routledge, 1998), 57.

<sup>14</sup> Bennett, *Theatre Audiences*, 93.

<sup>15</sup> For example, audience participation rose during the 1960s and 1970s, especially with regards to Richard Schechner’s Environmental Theatre. See Richard Schechner, *Environmental Theater* (New York: Applause, 1972), 39.

acts of audience participation in the Living Theatre and Schechner's Environmental Theatre, heightened levels of audience participation can be seen in Boal's guerilla theatre in which unwitting community members became both audience members and participants.

It is likely that through out the existence of theatre as an art form, there have been varying levels of community involvement in its performance and mixing between audience and performers. In addition to Greek civic involvement in choral competition, the Medieval Cycle Plays likely fostered a sense of community when the town's guild members gathered to create their part of the pageant<sup>16</sup> representing their trades. Likewise, in the French Parterre, there was a sense of intense ownership of the stage/theatre by the public. The audiences' sense of entitlement of the theatre can be seen in the conflict between those on stage (actors or elite nobles), and the pit.<sup>17</sup> The audience communicated in various ways with the performers on stage. Author Jeffrey S. Ravel notes, "these practices were disquieting to authors and performers forced to collaborate with interventionist spectators."<sup>18</sup> These historical precursors point to an ongoing relationship between community members as audience and as performers (message receivers and message creators/senders) and it also hints at an implicit tension or interchange between the roles, suggesting varying levels of audience as community participating in the creative act.

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<sup>16</sup> Peter A. Bucknell, *Entertainment and Ritual: 600 to 1600* (London, Stainer and Bell, 1979), 91-95.

<sup>17</sup> See Jeffrey S. Ravel, *The Contested Parterre: Public Theater and French Political Culture, 1680-1791* (Ithaca: Cornell University Press, 1999), 44-45.

<sup>18</sup> Ravel, *The Contested Parterre*, 56.

## Audience as Participant

In the twentieth century the audience became not only the focus of theory, but of performance. According to Colin Chambers, "...at the end of the twentieth century there was a multiplicity of theatre practices which sought out the theatre audience as co-creator of performance."<sup>19</sup> There are hundreds of examples of this, but I would like to note a few from the theatre movements I have previously discussed. In Futurist theatre, audience and spectators were mixed in the auditorium and their manifestos show a great interest not only in mixing audience and stage areas, but in instigating interactivity between audience and performers.<sup>20</sup> In Piscator's Epic Theatre, discussion and audience participation in the form of debate played an important part.<sup>21</sup> In Environmental Theatre (like Schechner's Environmental Theatre, or the Living Theatre) bodies of spectators and performers shared space and performed together.<sup>22</sup> In Boal's book, *Theatre of the Oppressed*, he discusses his efforts teaching local audiences to be participants and in his guerilla theatre performance spilled out into public places making performers and

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<sup>19</sup> Colin Chambers, ed., *The Continuum Companion to Twentieth Century Theatre* (London and New York: Continuum, 2005): 50.

<sup>20</sup> "Symphonize the audience's sensibility by exploring it, stirring up its laziest layers with every means possible..." Tommaso Filippo Marinetti, Emilio Settimelli, and Bruno Corra, "The Futurist Synthetic Theatre," in *Futurist Performance*, by Michael Kirby, with some translations by Victoria Nes Kirby, 196-202 (New York: PAJ Publications, 1971), 202. "...the audience will perhaps become the actor as well." Enrico Prampolini, "Futurist Scenography," in *Futurist Performance*, by Michael Kirby, with some translations by Victoria Nes Kirby, 203-206 (New York: PAJ Publications, 1971), 206.

<sup>21</sup> Thinking back to Piscator's theatre of dialogue and debate. This was especially evident in the play, *§ 213* (1929). In *§ 213*, Piscator ended the production with a public debate on abortion which would determine the fate of the fictional, but representative, character. See John Willett, *The Theatre of Erwin Piscator* (New York: Holmes & Meier Publishers, Inc, 1979), 101. Similarly, today one could write new scripts reopen these issues (or other issues) to theatrical debate or simply leave open the fate of the heroine of *Machinal*, leaving open the conclusion to Internet polling or debate. See Bennett, *Theatre Audiences*, 26.

<sup>22</sup> In productions like "*Dionysus in 69* and *Commune*, and Kaprow through his Happenings, increased audience participation to such a degree that audience and artist were sometimes indistinguishable." Allen, "The Nature of Spectatorial Distance in VR Theatre," 246. See also Schechner, *Environmental Theater*, 30.

audience out of unsuspecting by-standers as well.<sup>23</sup> In “Experimance”<sup>24</sup> and similar works in Europe today audiences are lead through performance landscapes. In each of these cases the audience members become performers, and as they migrate from being listeners/seers to being do-ers, they can (to an extent) become members of the creative community, creating content (messages) rather than primarily receiving.

In recent times, what it means to be an audience has sometimes changed (according to the performance situation and conditions), but generally the co-presence of performers and audience gathered in some place, remains no matter the level of participation.<sup>25</sup> However, with the introduction of new communication technologies, this idea began to be both challenged and reinforced.<sup>26</sup>

### **History: Broadcast and Audience Expansion**

While the use of the Internet to webcast “live” theatrical productions, potentially allows an increased number of viewers,<sup>27</sup> it is not unique in this aspect.<sup>28</sup> Before TV

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<sup>23</sup> See Bennett, *Theatre Audiences*, 122. See also Augusto Boal, *Theatre of the Oppressed* (New York: Theatre Communications Group, 1985), 120-130.

<sup>24</sup> Eero-Tapio Vuori, “Experimance and Altered States of Consciousness,” paper presented at the Planetary Collegium, Consciousness Reframed conference, Plymouth, England, July 21-23, 2006.

<sup>25</sup> See Chambers, ed., *The Continuum Companion to Twentieth Century Theatre*, 49.

<sup>26</sup> “The successful work of art has the ‘aura’ of its artistic authenticity; in contrast, a nonauratic work created by means of the most advanced technologies of reproduction may have no more than symptomatic interest.” Walter Dillmann, *The Disenchantment of Art: The Philosophy of Walter Benjamin*, translated by Jane Marie Todd (New York: The Guilford Press, 1996), 161.

<sup>27</sup> Note the use of the word viewers, as in television viewers (sometimes called the home audience by radio or TV broadcasters to suggest a type of continuation or connection between studio audiences and home viewers), instead of audience, as in co-present, live spectators.

<sup>28</sup> See ParkBench (<http://www.cat.nyu.edu/parkbench/>), Bryant Park, or numerous other onstage and behind the scenes theatre webcasts. Though there is little interactivity in these pieces to make them more than broadcasts on a new medium, the existence of teatrophone, makes me wonder about the use of new technologies for broadcasting alternative media. It would be interesting to investigate possibilities for

broadcasts of Great Performances or even radio plays, like Brecht's *Flight of Lindberg* (1929), extending the audience, there was the instinct to extend the actors' voices beyond the walls of the theatre building. Though there is limited evidence of use in stage plays, systems for broadcasting from theatre buildings via telephone, have existed since 1889 as evidenced by the following:

A company has recently come into existence in Paris which provides facilities for listening by telephone to vocal or instrumental performances given in one of the city's many theatres. Thus in many places in France, and even in other countries which are linked to Paris by telephone—including Brussels and London—it is possible to hear a performance from a Parisian theatre by these means... Variations of these are to be found in the salons of the great Parisian hotels. One need only slip a one-franc piece into an opening in the front of the 'theatrophone' to be able to listen for ten minutes at a time. Subscribers to the telephone do not require these devices as they can listen with their normal telephone.<sup>29</sup>

In the same entry, the desire to broadcast images of actors is also expressed. So the desire to transmit the "live" performance beyond the theatre building and into dispersed public places, or even private places (homes of telephone subscribers) has been with us for a while. It is the development of new technology, in this case the telephone, which makes transmission, and thus audience expansion, possible.<sup>30</sup>

Television and Film seem the perfect solution for the broadcast and dissemination of performances to mass audiences, so why not end there? Why insist on the persistence of theatre and or expanded theatre audiences for today's cultural expression? The answer is "liveness" or co-presence. While television can be taped in front of a live studio

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dialing up community or fringe theatres on ever-present cell phones, rather than receiving mass-produced TV bites on the hand-helds.

<sup>29</sup> Leonard De Vries, *Victorian Inventions*, compiled in collaboration with Ilonka van Amstel, translations from the Dutch by Barthold Suermondt (London: John Murray, 1971), 143.

<sup>30</sup> In fact, the telephone has been a key element in the development of early telematic performances, many of which were performed by cities linked by telephone and fax.

audience and broadcast in “real-time” (as in the live-action news), this form like cinema lacks the element of exchange between audience and performer inherent in theatre.

Unlike Theatre, TV and Film do not depend on the interaction between co-present actors and audiences;<sup>31</sup> the presence of a screen separates the acts of creation and reception.<sup>32</sup>

In these mediated forms eyes focus on screens and interfaces (representations) rather than actual bodies.<sup>33</sup> According to Maaïke Bleeker, reality in the theatre is physically present, in the same space as the spectator. “Body seeing and body seen are both present as part of the theatrical event.”<sup>34</sup> However, in cinema seeing and being seen are split. “The cinema only gives the bodies seen in effigy, inaccessible from the outside in a primordial elsewhere.”<sup>35</sup> The focused gaze, or even stare demanded by film and television, is not comparable to the relatively free directed eye movement in theatre.<sup>36</sup> Even if TV is

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<sup>31</sup> “Mulvey suggests that mainstream cinema...portrays: ‘a hermetically sealed world which unwinds magically, indifferent to the presence of the audience, producing for them a sense of separation and playing on their voyeuristic phantasy. Moreover, the extreme contrast between the darkness in the auditorium (which also isolates the spectators from one another) and the brilliance of the shifting patterns of light and shade on the screen helps to promote the illusion of voyeuristic separation.’” Bennett, *Theatre Audiences*, 81.

<sup>32</sup> “...Brecht once reproached cinema itself as being ‘the result of a production that took place in the absence of its audience’...” Chris Hales, “New Paradigms <> New Movies,” in *New Screen Media: Cinema/Art/Narrative*, edited by Martin Rieser, and Andrea Zapp, 105-119 (London: British Film Institute, 2002),

<sup>33</sup> Both television and film require a constant gaze onto one surface: “...film requires a certain technological apparatus...and spectators...sit in a darkened auditorium, their attention focused on the fixed space of the screen.” McAuley, *Space in Performance*, 237. Television programming and commercial viewership is studied in terms of “eyes-on-screen time.” Dean Krugman, Dean M., Glen T. Cameron, and Candace McKearney White, “Virtual Attention to Programming and Commercials: The Use of In-Home Observations,” *Journal of Advertising* 24, no. 1 (Spring, 1995): 1. “One is able to see all of them... sensing the physical reactions of the body seen on stage as though they were one’s own.” Maaïke Bleeker, “Disorders that Consciousness Can Produce: Bodies Seeing Bodies Onstage,” in *Bodycheck: Relocating the Body in Contemporary Performing Art*, edited by Luk Van den Dries, Maaïke Bleeker, Steven De Belder, Kaat Debo, and Kurt Vanhoutte, 131-160 (Amsterdam and New York: Rodopi, 2002), 131.

<sup>34</sup> Bleeker, “Disorders that Consciousness Can Produce,” 140.

<sup>35</sup> Bleeker, “Disorders that Consciousness Can Produce,” 140.

<sup>36</sup> See McAuley, *Space in Performance*, 239.



broadcast in real-time or live, TV cannot truly be “live” (as in communication between co-present living beings) outside the studio.<sup>37</sup> Without co-presence these entertainment forms only deliver messages to the masses consisting of individuals who are isolated not gathered into a group which supports their self-awareness as a participant in a group or community.<sup>38</sup>

### **Television vs. Internet: Isolation and Publicizing Private**

Susan Bennett writes this about the in-home entertainment form, saying:

Television, above all, lacks the sense of public event that attaches to both theatre and cinema. It denies the audience the sense of contact with the performers that is integral to any theatrical performance and, moreover, it denies the spectator-to-spectator communication (in both its positive and negative aspects) within the larger framework of audience as community.<sup>39</sup>

But how does Bennett’s statement about the lack of audience as community transfer to the new medium of the Internet? Because Television and Internet are both popular forms of (public) information and entertainment which are primarily viewed within the home (a

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<sup>37</sup> “Theatre consists of human beings in a defined space watched by other human beings...The primary fact of theatre is, however, the live presence of both performers and spectators, and from this flow two major consequences for the spectator: first, theatre involves an energy exchange among and between spectators and performers, and, second, the performance is necessarily embedded in a social event...Comparison of theatre with cinema and television in this respect throws into relief the distinctive nature of the theatre experience. In the cinema the spectators are physically present, but the actors are a virtual Presence only, unable to respond to the spectators or to adjust their performance to what might be occurring in the auditorium. They are images on a screen that remind us of the absence of that which is represented...With television both performers and audience have become pseudo-presence; and the absence of audience is only accentuated by shots of a studio audience, reminding those at home that they are not part of that audience.” McAuley, *Space in Performance*, 245.

<sup>38</sup> “Ellis, like the other Screen critics, describes the fundamental satisfaction of cinematic narration as voyeurism... ‘The film is offered to the spectator, but the spectator does not have anything to offer to the film apart from the desire to see and hear...understand events rather than to change them.’” Bennett, *Theatre Audiences*, 89. “Community is that entity to which one belongs, greater than kinship but more immediately than the abstraction we call ‘society.’” A. P. Cohen, *The Symbolic Construction of Community* (London: Tavistock Publications, 1985), 15.

<sup>39</sup> Bennett, *Theatre Audiences*, 90.

private space), they both generally include the element of physical isolation to some degree rather than the formation of audience in the theatrical sense.<sup>40</sup> Both primarily serve individuals rather than groups, conforming to Arendt's description of private as "the absence of others."<sup>41</sup> Much has been written about the solitude, loneliness, and disconnection of current society induced by mass media and especially through Television broadcast.<sup>42</sup> Arendt's work defines our basic understandings of public and private of the increased isolation of members of society or the "mass phenomenon of loneliness"<sup>43</sup> due to the rise of the private and the decline of the public.<sup>44</sup>

Although the Internet allows for more than a uni-directional flow of information and therefore prospective, isolation is a key aspect of early cyberpunk fiction and perhaps exists

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<sup>40</sup> Postman's thoughts on the importance of the medium of TV to shaping culture could now be adjusted to include the impact of the Internet on how we communicate. "I mean that television is the paradigm for our conception of public information. As the printing press did in an earlier time, television has achieved the power to define the form in which news must come, and it has also defined how we shall respond to it." Neil Postman, *Amusing Ourselves to Death: Public Discourse in the Age of Show Business* (New York: Penguin Books, 1985), 111. "The term 'public' signifies the world itself, in so far as it is common to all of us and distinguished from our privately owned place in it... The public realm, as the common world, gathers us together and yet prevents our falling over each other, so to speak." Hannah Arendt, *The Human Condition* (Chicago: The University of Chicago Press, 1958), 52-53. It should be noted that with the expansion of wireless computing (which can take place in coffee shops and the like) and TV reception (as well as video and image transmission) from cellular phones and related hand-held devices, the ideas of public and private are becoming even more permeable and mixed. For the sake of argument, for the most part I will be discussing the use of Internet as if from a home environment (even a bedroom) to demonstrate a private space receiving and transmitting public information. See Arendt, *The Human Condition*, 71.

<sup>41</sup> Arendt, *The Human Condition*, 59.

<sup>42</sup> "The mediatization of national and global concerns through the increased visibility of television and the overflow of information in the face of which the individual seemed powerless, as McLuhan identified in *War and Peace in the Global Village* (1968), prompted a backlash of desire for the local and for 'authentic experience.'" Deirdre Heddon, and Jane Milling, *Devising Performance: A Critical History* (Houndmills, Basingstoke: Palgrave Macmillan, 2006), 130.

<sup>43</sup> Arendt, *The Human Condition*, 59.

<sup>44</sup> "They are all imprisoned in the subjectivity of their own singular experience, which does not cease to be singular if the same experience is multiplied innumerable times. The end of the common world has come when it is seen only under one aspect and is permitted to present itself in only one perspective." Arendt, *The Human Condition*, 58.

in online culture.<sup>45</sup> Yet at the same time, for as many people may become net citizens recede from the public world of libraries, markets, and real-life social venues, just as many online equivalents from shopping to social venues (blogs, forums, myspace) are popping up and thriving, creating virtual meeting places, and perhaps a new sense of public.<sup>46</sup> Mike Featherstone writes, “The privatized retreat into television and video—essentially passive, non-interactive mediums—has been followed by engagements with increasingly interactive technologies: camcorders, multi-media interactive CDs, computer games and so on. Technology is beginning to mediate our social relationships, our self-identities and our wider sense of social life to an extent we are only just beginning to grasp.”<sup>47</sup>

The Internet is at once at home in private places like studies, kitchens, living rooms, even bedrooms; and out in society. This creation of a semi-public space (via the computer Internet terminal) from which one can speak to the larger, even global public, leads to a problematizing of the distinctions between public and private.<sup>48</sup>

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<sup>45</sup> “The cyberpunk view of the world is also one which recognizes the shrinking of public space and the increasing privatization of many aspects of social life...For many all that is left is technology. .. Individuals are increasingly locked into the isolation...and they only make contact with the outside world through telecommunications and networked computer-information systems.” Mike Featherstone, and Roger Burrows, “Cultures of Technological Embodiment: An Introduction,” in *Cyberspace/Cyberbodies/Cyberpunk: Cultures of Technological Embodiment*, edited by Mike Featherstone and Roger Burrows, 1-19 (London: Sage Publications, 1995), 12-13. “The technology that provides alternative communications links and invents new kinds of community is the same technology that offers undreamt of degrees of surveillance. The technology that can connect you to the world in unprecedented ways is the same technology that can isolate you in a fantasy of your own, or another's construction.” David Rockeby, “Transforming Mirrors: Subjectivity and Control in Interactive Media,” <http://homepage.mac.com/davidrokeby/mirrors.html>, (accessed October, 2006), (no pagination).

<sup>46</sup> According to Featherstone and Burrows, computer technology was developed to promote and speed up global communications. However the effect is one of disconnection and distance. They say that individuals are increasingly locked into the isolation of their homes and they only make contact with the outside via their technology. See Featherstone and Burrows, “Cultures of Technological Embodiment,” 12.

<sup>47</sup> Featherstone, and Burrows, “Cultures of Technological Embodiment,” 13.

<sup>48</sup> This is evidenced and exploited by a growing number of cottage industry pornography websites, in which private acts are performed for public viewing by internet audiences.

As Arendt once wrote: “Obviously, the character of the public realm must change in accordance with the activities admitted into it, but to a large extent the activity itself changes its own nature too.”<sup>49</sup> We are on the verge (or more likely have entered) of a new understanding of public.<sup>50</sup> This new public, cyber-public (also referred to as an “electric commons” or “digital public sphere”<sup>51</sup>) exists almost independent of geographical place and therefore can be situated inside of traditionally private places. It is a public made primarily from perspectives networked together. This also fits Arendt’s parameters of public: “the reality of the public realm relies on the simultaneous presence of innumerable perspectives and aspects in which the common world presents itself and for which no common measurement or denominator can ever be devised. For though the common world, is the common meeting ground of all.”<sup>52</sup> Perhaps to an extent, the heteroglossia of the Internet and its creation of multiple publics repairs what Arendt sees as the difficulty of mass society, the inability to bring people together.<sup>53</sup>

With the recent rise of available webcasting, podcasting, teleconferencing and other alternative forms of broadcast, the multi-directional model of communication

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<sup>49</sup> Arendt, *The Human Condition*, 46.

<sup>50</sup> This mediates what Featherstone and Burrows call the “contemporary decline of our sense of ‘publicness.’” Featherstone, and Burrows, “Cultures of Technological Embodiment,” 13.

<sup>51</sup> Hillis, “Human.Language.Machine,” 55-56.

<sup>52</sup> Arendt, *The Human Condition*, 57.

<sup>53</sup> “Additional publics, then, aren’t a distraction or fragmentation, but are a healthy sign of access and honesty. ‘Arrangements that accommodate contestation among a plurality of competing publics,’ Fraser argues, ‘better promote the ideal of participatory parity than does a single, comprehensive, overarching public.’” Jill Dolan, *Utopia in Performance: Finding Hope at the Theater* (Ann Arbor: University of Michigan Press, 2005), 10; “The Popularity of virtual technologies today in part reflects a desire that these machines might represent... an acceptable commons in which fragmented but nonetheless highly individuated modern subjectivities might achieve virtual reunification with other similar entities.” Hillis, “Human.Language. Machine,” 55-56; “What makes mass society so difficult to bear is not the number of people...involved, or at least not primarily, but the fact that the world between them has lost its power to gather them together, to relate and to separate them.” Arendt, *The Human Condition*, 56.

begins to replace the mass-media and televised uni-directional model of the viewing-public only receiving messages.<sup>54</sup> Through interactivity (in contrast to passive TV viewing), Internet users become creators of content, broadcasters, performers and members of creative as well as social and discursive communities. Today, potentially everything can be seen and heard.<sup>55</sup> Today celebrities, politicians, web-celebrities, and civilians alike face possibility of being broadcast without their consent as the boundaries between public and private dissolve.<sup>56</sup>

Poised between the one way transmission of messages of its entertainment predecessors Television and Film and the ultra-democratic interactive multiple viewpoint conversation of the Net, Theatre must decide what type of communication medium it

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<sup>54</sup> “The radio and the television were called means of communication; however, communication implies interaction between subjectivities. The radio and the television are means of information. The telephone and the Internet in actual time (text, chats, and telepresence) allow communication. Both require a partner and participation, i.e., to become active part.” Maria Beatriz de Medeiros, “Performance art and Digital Bodies (Corpos Informáticos),” *Body Space and Technology* 3, no. 2 (2003), <http://people.brunel.ac.uk/bst/vol0302/index.html>, (no pagination).

<sup>55</sup> “The term ‘public’ signifies...everything that appears in public can be seen and heard by everybody and has the widest possible publicity. For us, appearance—something that is being seen and heard by others as well as by ourselves—constitutes reality. Compared with the reality which comes from being seen and heard, even the greatest forces of intimate life—the passions of the heart, the thoughts of the mind, the delights of the senses—lead an uncertain, shadowy kind of existence unless and until they are transformed, deprivatized and deindividualized, as it were, into a shape to fit them for public appearance.” Arendt, *The Human Condition*, 50.

<sup>56</sup> “In recent trends, the salacious nature of personal ‘private’ behaviour of ‘public’ figures is treated as...politically significant...The private is thus publicised and made political. This issues questions of access to and ownership of the private lives of others. The ‘right’ of an individual to privacy often appears to be in conflict with the ‘right’ of ‘the public’ to knowledge.” Lucy Sargisson, *Utopian Bodies and the Politics of Transgression* (London and New York: Routledge, 2000), 54-55; “Some stars are born on the silver screen, some on the small screen, but the really awesome ones? These days, they’re born on the computer screen.” VH1’s “40 Greatest Internet Superstars Show,” aired April 4, 2007, [http://www.vh1.com/shows/dyn/the\\_greatest/115766/episode\\_about.jhtml](http://www.vh1.com/shows/dyn/the_greatest/115766/episode_about.jhtml). “And for seizing the reins of the global media, for founding and framing the new digital democracy, for working for nothing and beating the pros at their own game, *Time*’s Person of the Year for 2006 is you.” Lev Grossman, “*Time*’s Person of the Year: You,” *Time*, December 13, 2006, <http://www.time.com/time/magazine/article/0,9171,1569514,00.html>; It is interesting to note Arendt wrote: “...mass society not only destroys the public realm but the private as well, deprives men not only of their place in the world but of their private home, where they once felt sheltered against the world...” Arendt, *The Human Condition*, 59.

wants to be. Theatre is poised between being viewed as a remnant of earlier models of uni-directional entertainment or dissolving into the chaos of unfettered interactive conversation. The navigation of this challenging dilemma can lead to some very exciting Digital Theatre.

## ***The Internet in Digital Theatre***

In the following pages I will be discussing the impact of the inclusion of Internet broadcast and interactivity on the theatre audience as a community. I will be looking at the ways various aspects of the community surrounding performance are extended through online elements. This takes form in Digital Theatre in terms of audience expansion, participation by online audiences, interactivity, and community participation—the audience as authors, as seen in *Crazy Wisdom Sho*, and *Living Newspaper 1935/2001*, and the audience as scenographers, as seen in *M@ggie's Love Bytes*. I will then discuss the multiplication of audiences and inherent performativity of the Access Grid, then briefly touch on collective agency<sup>57</sup> through telepresence, before talking about VR acting and the limits of participation.

### **Audience Expansion**

Author Kent DeSpain states that,

At one time, human communications were limited to immediate sensory experience, so the space of communication was restricted to the presence of at least two humans and the range of human senses (how far can you see a hand gesture? how far can you hear a shout or a whistle?). The technologies of literacy and art fundamentally altered the space and time of the communicating body, allowing the text and/or images of individual

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<sup>57</sup> See Baz Kershaw, *The Radical in Performance: Between Brecht and Baudrillard*, (London: Routledge, 1999), 129, 194.

communications to be moved in space and persist in time. Digital technologies and media storage have simply made this extension easier and more compelling.<sup>58</sup>

Since the time of the Victorian telephone theatre (if not longer), there has been a desire to expand the range of theatre to audiences outside the auditorium, and effect technologized audience expansion. Today's method of audience expansion is the Internet.

Earlier, I said that audiences are formed by their presence in a theatre. But today we are looking at the possibility of place-freed audiences. Julia Glesner writes: "Until today, the spatio-temporal unity of both performers and spectators represents one of the commonly accepted defining criteria for the term theatre."<sup>59</sup> These changes challenge us to ask how does this lack of shared physical location affect the online audience's behavior and sense of the performance place or community?<sup>60</sup>

Let's explore the importance and limitations of theatre audience expansion via Internet broadcast. Are all Internet viewers watching a broadcast of a show online audiences who are actively participating in performance (therefore constituting Digital

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<sup>58</sup> Kent DeSpain, "Come in and Make Yourself at Home: Colonization and the Body/Technology Interface," *Body Space and Technology* 2, no. 1 (2001), <http://people.brunel.ac.uk/bst/vol0201/kentdespain.html>.

<sup>59</sup> Julia Glesner, "Internet Performances as Site-Specific Art," *Body Space and Technology* 3, no. 1 (2002). <http://people.brunel.ac.uk/bst/documents/juliaglesner.doc>, (no pagination).

<sup>60</sup> "Along with occasion, Raymond Williams suggests that place is the most common signal of art. Traditionally...the playing space has been contained in an area or building designated as theatre. That designation...acts to signal the event staged within as theatrical performance." Bennett, *Theatre Audiences*, 135; What is the outcome when the environment that frames the theatre event varies with each viewer's private circumstances? "The model...outer frame contains all those cultural elements which create and inform the theatrical event. The inner frame contains the dramatic production in a particular playing space. The audience's role is carried out within these two frames and, perhaps most importantly, at their points of intersection. It is the interactive relations between audience and stage, spectator and spectator which constitute production and reception, and which cause the inner and outer frames to converge for the creation of a particular experience." Bennett, *Theatre Audiences*, 149; "How did the spectator travel to the theatre?...Or is the performance available in the workplace or at a union hall? ...travelling to the theatre involve a difficult journey or adverse weather conditions? All such elements of the gathering process are bound to influence the spectator's preparation for the theatrical event...set in place the theatrical frame..." Bennett, *Theatre Audiences*, 133.

Theatre)? No. I would offer, at this time, that without co-presence at some part of the performance, Internet audiences alone do not constitute a theatre event. My interest in technological audience expansion in Digital Theatre (partially fulfilled by the participation of online audiences) is in the ability to reach a larger audience than can be held in one physical place (one theatre house), without losing what is essential to theatre's core, a perceived sense of community found in the presence of actors and audience—the temporary connection between those gathered in the same room.

The visible interface of the computer monitor when used in the usually private setting of the home,<sup>61</sup> parallels more closely the experience of watching a taped broadcast or a television broadcast. In the private, distributed and non-controlled setting,<sup>62</sup> the viewer has the same distractions and possible loss of focus (from multi-tasking<sup>63</sup>) which can cause the performance to become ambient entertainment rather than their main focus or activity. The at-home viewer sees the performance through a screen interface and their experience is generally one of physical/experiential isolation from the event and other viewers rather than taking part in a group audience experience.<sup>64</sup> While some have

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<sup>61</sup> Although online events can also be viewed in offices or cafes or other wireless hubs.

<sup>62</sup> Today the prevalence of Internet ready computers in the home and people of all ages computing online has reached the level of cultural impact of which scholars once wrote about the prevalence of TV. “And it brought them into the home. We are by now well into a second generation of children for whom television has been their first and most accessible teacher and, for many, their most reliable companion and friend. To put it plainly, television is the command center of the new epistemology. There is no audience so young that it is barred from television. There is no poverty so abject that it must forgo television.” Postman, *Amusing Ourselves to Death*, 78.

<sup>63</sup> Internet usage is similar to TV “surfing.” “the present and future of television: decentralization, diversification, and customization...In addition, the widespread practice of “surfing” (simultaneously watching several programs) introduces the creation by the audience of their own visual mosaics.” Manuel Castells, *The Rise of the Network Society*, The Information Age: Economy, Society, and Culture 1 (Malden and Oxford: Blackwell Publishers, 1996), 341.

<sup>64</sup> Perhaps this opinion will someday be re-considered in light of developing technologies which allow for audiences to view and sense each other—as somewhat occurs on the Access Grid, but for now, I am including examples which Digital Theatre which include both co-present and mediated audiences.



commented on the proscenium as a frame (which could be compared to a computer monitor or TV set's frame<sup>65</sup>), the relative seamlessness of space shared by performer and audience in the absence of an interface was commented on as long ago as Piscator, who wrote that "theatre addresses the community rather than the individual, and it appears to do so more directly because there is no printed page or painted canvas to interpose between the artist and his audience."<sup>66</sup> To better understand what constitutes an active online audience I will now discuss online audiences.

### Online Audience Participation

In addition to the problematizing of public and private, when used in performance, the Internet can lead to a fracturing and multiplication of audiences. Internet broadcasting of performances can clutter any absolute definition of "The Audience,"<sup>67</sup> and sometimes blur distinctions between a purely live or mediated audience/viewing experience (especially when access is provided in-house<sup>68</sup> or when

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<sup>65</sup> "With his 1934 dissertation *Anschauungsformen der deutschen Dichtung des 18. Jahrhunderts*, German researcher August Langen was one of the first to present an important theory of the frame. He has the distinction of having intuitively understood the important influence of the magic lantern, the Baroque illusionistic theater, the camera obscura, and other framelike means of expression in the mode of modern perception, and of having supported it with very copious documentation. According to him, perception and imaginary activity take place on a small inner stage where the head itself acts as a magic lantern in perspective, which allows only the perception of a reduced and highly framed visual field. Through this opening, limited to a fragmented vision, the outside world or imaginary powers insert images or allow them to file past. The imagined 'picture' is clear and neat from up close, small and condensed from afar. The scenes vary, the place and scenery change, one small scenic image is replaced by another, a chain of images files past in the magic lantern of the mind...this chain of images...'frame vision.'" Bartels, "The Box of Digital Images," 45-70.

<sup>66</sup> C. D. Innes, *Erwin Piscator's Political Theatre: The Development of Modern German Drama* (Cambridge: Cambridge University Press, 1972), 11.

<sup>67</sup> Although online audience numbers and actions can be tracked and added to in-house ticketing or survey data.

<sup>68</sup> In-house is being used as a term to designate audience members in a theatre auditorium co-present with actors.

online audiences are allowed to contribute content or stimulate performers actions or responses through interactive prompts or stimuli).<sup>69</sup>

There are several types or levels of online audiences and there are definite experiential differences between online and in-house or live, co-present audiences. While in some cases Internet broadcast is used little more than TV broadcast (generally not included as examples of Digital Theatre), in other instances through interactivity agency is given to online audiences, and they may become participants, or co-creators of the performance, altering the expected role of audience.<sup>70</sup>

In her book on devising, Deirdre Heddon writes about the effect of digital technology, such as are used to create online audiences, on devising:

One already noticeable trend, however, is that, in much of the work, the performer is being replaced by a spectator—participant, who uses technology in order to be part of the performance event. Obvious allusions might be drawn here to the participatory Happenings of the 1960s, although whether more contemporary experiences are driven by a desire for democratic forms of participation remains to be seen.<sup>71</sup>

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<sup>69</sup> Such as was discussed with Stelarc's electric stimulation of muscles or other examples of content creation which will be discussed in this chapter.

<sup>70</sup> "Where audiences are consulted and involved in the structuring of the theatrical event, and are encouraged (at least in the immediate post-production period) to translate their reading of that event into action, then their role no longer maintains the fixity that dominant cultural practice assumes. In this way, the production/reception process acts bi-directionally in broader cultural perspectives." Bennett, *Theatre Audiences*, 180.

<sup>71</sup> Heddon, and Milling, *Devising Performance*, 212.

## Interactivity and Participation

This online audience participation occurs through computer interactivity.<sup>72</sup> David Z. Saltz states that the use of a computer to produce a work of art is not enough to call the work “interactive.” Saltz writes,

Very generally, for a work to be interactive, the following events must occur in real-time: 1) A sensing or input device translates certain aspects of a person's behavior into digital form that a computer can understand. 2) The computer outputs data that are systematically related to the input (i.e., the input affects the output). 3) The output data are translated back into real-world phenomena that people can perceive.<sup>73</sup>

Interactivity is both a human and now a human-computer concept expressing the idea of exchange (or conversation/communication).<sup>74</sup> Because Internet technology is based on interactivity and choice-making in order to navigate materials and access information or entertainment resources, it is in some ways more active than sitting in a proscenium

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<sup>72</sup> “Up to now, interaction has been seen as a direct component of human communication, as an act transacted face-to-face in real-time. In the case of analogue media, viewers or listeners initially merely received transmitted broadcasts from the apparatus. Interactive feedback could not be given, particularly in the case of pre-recorded broadcasts, whose reception was deferred, Contemporary users of digital media can interact with each other over telephone lines, video-conferencing or live Internet chatrooms. (This degree of directness becomes impossible when listening to a message on an answering machine, watching a broadcast recorded on videotape or using a website stored on data servers, since communication is staggered in time and separated, as it were, by the medium.)” Eku Wand, “Interactive Storytelling: The Renaissance of Narration,” in *New Screen Media: Cinema/Art/Narrative*, edited by Martin Rieser, and Andrea Zapp, 163-178 (London: British Film Institute, 2002), 164.

<sup>73</sup> David Z. Saltz, “The Art of Interaction: Interactivity, Performativity, and Computers,” *The Journal of Aesthetics and Art Criticism* 55, no. 2 (Spring, 1997): 118. Noted theorist and practitioner David Rockaby gives an interesting proof (in his interactive installation *Very Nervous System*) of the idea that a message must travel back and forth three times to prove interactivity. Rockaby, “Transforming Mirrors,” (No pagination).

<sup>74</sup> “The interactivity itself is a human phenomenon. Humans interact with each other—that is what humans do. We get each other on the phone, we touch each other and we kiss each other—we prefer to dance with someone than to dance alone. Technology is not what makes it interactivity for us, but what it can do is in performance situation here we have audience here, performer here, musicians here, it can connect us it can allow us to interact with each other in a forum where, that wasn't previously happening so we are enlivening a structure of performance.” Jane Frere, and Mostafa Yarmahmoudi, “Palindrome: A Critical Perspective and Interview,” *Body Space and Technology* 1, no. 4 (2001): <http://people.brunel.ac.uk/bst/vol04/janefrere.html>, (no pagination).

theatre auditorium listening.<sup>75</sup> Thus interactive online audiences may participate more in shaping a production.

A sense of real-time or liveness may be stimulated through interactivity. By offering the online viewers interactivity beyond the in-house audience's choices for influencing stage action, they may experience a sense of agency, but the trade-off may be the effect of restricting them from a sense of co-presence, or awareness of the group experiencing the moment together. In this sense, the online audience member is more of a gamer (or player) than an audience or member of a gathered community. The lone individual audience member may have more control of the action, but less of a perceived sense of connection to fellow audience members, of course this scenario shifts when others watch the broadcast or audiences remain visible and active (as in videoconferencing).<sup>76</sup>

In the following Digital Theatre examples, online devising, or online audience members giving input into the theatre event, causes them to be participants and thus to become temporary members of the creative community: blurring the role of audience with those of author, sceneographer, actor, and director.

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<sup>75</sup> This is often in the sense of making choices which result in an action or interaction. "Andy Lippman defines interactivity as a 'common, simultaneous activity from two parties that can lead to an objective, but not necessarily.' Following Lippman's definition, the mere possibility of a reaction should be sharply distinguished from an alternation of reactions between producers and audience on one side of the potential continuum of interactivity or a potential change of the structure of the performance on the other side." Glesner, "Internet Performances as Site-Specific Art," (no pagination).

<sup>76</sup> Though group viewing is also possible and may lead to branching or multiple dispersed or branching mini-audiences, much like sports fans may gather to watch a televised sporting event—without actually being at the game.

## Participation: Online Audience as Authors

In some cases audiences become authors by participating in shaping the dramatic text through online messaging or interactive feedback forms.<sup>77</sup> In *Crazy Wisdom Sho*,” (George Coates Performance Works, 2001), and the *Living Newspaper 1935/2001* (University of Georgia, 2002), the online audience acts in a sense as playwrights, thus extending both a sense of agency and creative community outside the accepted theatrical structure of definite author, actor, and audience role separation.

### *Crazy Wisdom Sho*

Perhaps the strongest example of online audiences shaping the verbal content of a piece can be found in George Coates Performance Works 2001 production entitled *Crazy Wisdom Sho* in which the online audience members created the crazy wisdom.<sup>78</sup> In this production, visitors to the company’s website typed in messages on a message board which transferred directly to Teleprompters which were read aloud by actors on the stage. The thoughts of those online were spoken directly to the in-house audience, but they were

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<sup>77</sup> In the case of the Plaintext Players, performances were held online as improvisatory scripting sessions (in chat rooms) with a Digital.Director (Antoinette LaFarge) steering the development of the action. The unique performances were directed textual improvisations that took off from special written scenarios. See Antoinette LaFarge, “Plaintext Players,” <http://yin.arts.uci.edu/~players/>. While sometimes performing online in chatrooms or MOOs, other works such as *The Roman Forum Project*, included co-presence, thus demonstrating Digital Theatre’s live and mediated nature. Videos of *The Roman Forum* can be seen on Antoinette LaFarge and Robert Allen, “The Roman Forum” website, <http://yin.arts.uci.edu/~players/RF/index.html>. The performance featured live performances in the gallery which were mixed with video environments and streamed to the Internet simultaneously with a live online improvisation and an open online forum on virtual performance. An argument could be made that their work demonstrates the possibility of creating community through online and co-present interactions. Not only can we conceptualize the group of online scripters/performers as a performance community sharing one online space (and conversation), but if this group was opened up to a larger pool of online debate (in a controlled version of *Crazy Wisdom Show*), then community would be in practice through the political (or topical) debate of the online audience-participant. In a sense a truly open forum would evidence a sense of the larger community while creating a time-limited community between conversants/participants.

<sup>78</sup> Information about George Coates and George Coates Performance Works can be found on the Digital Performance Archive: [http://dpa.ntu.ac.uk/dpa\\_site](http://dpa.ntu.ac.uk/dpa_site).

not entirely unfiltered, as performers chose to interpret some author's words as having less value, therefore reading them incredulously or with an ironic or undervaluing tone, mocking or creating characters of the author's type of personality. The overall impression of watching the archival video is that of watching a theatrical (or clowning) version the homeless eccentric receiving radio transmissions from other planets via their tin-foil hats or fillings.<sup>79</sup> It is a silly, crazy, and often sweet series of comments picked up from the ether, and the larger community consciousness.

In *Crazy Wisdom Sho*, Coates and his group set up a performance structure without structure—funneling the written text of Internet users straight to the actors on stage via teleprompter, passing the role of playwright to the internet user. This makes the use of the spoken word somewhat “looser” than loosely scripted. It is in fact, externally scripted.

By typing in on the group's website, users became the playwrights of the “Crazy Wisdom,” which the actors then spoke on stage. The piece was “conceived” around the trickster character—and web technology—and features “characters who to some might appear to be clowns or fools, but to others seem to possess great wisdom.”<sup>80</sup> Here are some examples of the words that were spoken by the actors on stage to a live audience in San Francisco. “I make it look easy.” “Are there any girls with large breasts...I like them...” Spoken by actress Sarah More in a demeaning/mocking tone of voice. “I support my local police because they twist my arm” contrasted with the less meaningful

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<sup>79</sup> See “George Coates Performance Works: Crazy Wisdom Sho,” <http://www.georgecoates.org>; In the case of the homeless eccentric, Lilly Tomlin's wise and wistful street character in *Search For Signs of Intelligent Life* is brought to mind.

<sup>80</sup> George Coate, “George Coates Performance Works: Crazy Wisdom Sho,” <http://www.georgecoates.org>.

“Giant wombats have attacked the capital...” delivered by Nigerian actor Babatunde Garaya, in a calmly authoritative and congenial tone of voice.<sup>81</sup> Through the actors’ interpretations, the words of the random authors, from any global location, were either credited or discredited, no matter what the content. In this production the emphasis is completely on the words relayed through technology and delivered by the human actor, who provides the primary visual stimulus of the event. Though the locus of control is outside of the hands of the traditional (thoughtful) theatre playwright, this is also the strongest example of emphasis being placed on the spoken word in the Digital Theatre examples we have looked at so far.

If traditionally, the person of greatest value to the core of the theatre piece is assumed to be the playwright, what is it saying about our culture if the words and process of message-making is being opened up or even given away to transient online audiences, who may wander into a venue and deposit their random thoughts, passing them through the bodies of the actors, straight to the waiting audiences? Are we admitting that as a culture we are in a state of random flux without legitimized meaning makers, that the production of meaning become hallow and super-democratic (all sound and no meaning)? Are we only capable of processed sound-bites, repeating juvenile ideas or messages which are not our own? Or are we on the verge of opening up to the acceptance of larger systems of communication where new communities are formed and disperse in fleeting interactions? This production provokes questions rather than offering answers. And these questions testify to the sense of freedom and open communication indicated by the Internet Technology boom of its time and location. In a sense, at this time, (with many

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<sup>81</sup> George Coate, “George Coates Performance Works: Crazy Wisdom Sho,” <http://www.georgecoates.org>.

Internet company models/business plans) there was no one behind the wheel, no captain of the ship, no playwright to shape the work—but, at the same time, there was a tremendous sense freedom and excitement in the power of communication technologies (especially Internet based) to connect disparate voices into communities and extend a sense of agency and participation to community members usually without a voice (in making high-art).

### ***Living Newspaper 1935/2001***

In 2001 University of Georgia student Kathryn Hammond revisited the idea of the Living Newspaper. This Piscator- and agit-prop-inspired, documentary drama form was instituted by the Federal Theater program to have out of work actors play out the current events of the daily papers for the Depression era masses. The production, which took approximately nineteen months to assemble, explored the idea of enacting news events to embody social topics.

The show featured a circa-1935-inspired set design, but also had two projection screens, one on either side of the stage, two robotic lights, and MIDI controls. The structure of the piece was split into two sections one derived from the 1935 Living Newspaper Archives, and the second half resembling media in the MTV generation. With a Live News format, photos and three-minute video clips, the show used updated celebrity-driven media to reflect today's media obsessions. In addition to issues relating to student life at University of Georgia, in the 2001 sequence sexuality and media was highlighted. There was a dance sequence, and a projectionist spectacle in which celebrity lips were made to speak quotes from famous figures, followed by a “four minute sexual



encounter, hard core anime porn, media meltdown.”<sup>82</sup> Director Lee Smith<sup>83</sup> described it as creating a feeling of the media crush today. Other students described part two as being “student” experiences without as much structure as the earlier section. Allen Partridge commented that the second half was “fast paced” with “heady info,” saying that “any audience that would have liked the first show would not have liked the next show.”<sup>84</sup>

The Macromedia Director-based interface allowed for online audience voting,<sup>85</sup> chatting, watching the real-time broadcast.<sup>86</sup> Allen Partridge set up the website interface to allow for a sophisticated user experience. The interface greatly shaped the online audience experience; it allowed for users to login, manipulate buttons with face buttons which could change dynamically, participate in a chat window (which also allowed them to see who’s online), also question icons and background information on the show/project and its historical inspiration were available. In addition the multiple camera views (from camera people in between house audience and stage), users of the website could choose and mix the multi-camera views.

But perhaps the most important aspect of the online interface, and of the production experience, is the use of chat windows to influence stage action and content. In addition to displaying some audience banter, with a delay of only “30 seconds – to

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<sup>82</sup> Katherine Anastasia Hammond, “Just a Little Bit of History Repeating: A Media Exploration of the Living Newspaper,” Master’s thesis, University of Georgia, 2002, 17-18.

<sup>83</sup> Hammond’s spouse and a PhD student studying the relationship between interactivity and narrative in mediated theatre. The concern being that the more you increase interactivity more you decrease narrative/drama.

<sup>84</sup> Allen Partridge, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, January 2003.

<sup>85</sup> Unmatched for the live co-present audiences, who according to Lee Smith, who felt the “in house audience was undervalued, throwing (stuffed) mice on stage.”

<sup>86</sup> Real Streamer 30-100 seconds delay depending on connection, according to Partridge.

what you said being [possibly displayed/viewed] up on stage,”<sup>87</sup> online users shaped the order of events on stage. Partridge explains, “Chats were funneled in to the moderator in the booth who chooses responses to questions to show on screen (lists vote for question)—sometime influencing stage cues.”<sup>88</sup> People would vote for a number or option and the responses would be listed and counted, resulting in an action. Partridge explained that the cuing machine held cues, and updated the cue if requested, and that the highest vote determined the cue unless the moderator overrode it.<sup>89</sup> So to some extent, the online audience shaped the stage action, thereby extending the locus of the creative community (or community of artists creating the production) into the unknown either.

While talking about *The Living Newspaper*, Dr. Saltz indicated that the better listening/viewing experience might have been better for an Internet audience, rather than the live co-present (in-house) audiences. This sentiment was echoed by Allen Partridge and others who stated the “show’s better online, better than onstage.”<sup>90</sup> Partridge also indicated that the “Internet audience seemed to understand it better than the live audience.”<sup>91</sup> This may have been because of the interactivity and additional interface offered the online audiences, that it was a more “focused and directed” experience online

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<sup>87</sup> Allen Partridge, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, January 2003.

<sup>88</sup> Allen Partridge, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, January 2003.

<sup>89</sup> Allen Partridge, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, January 2003.

<sup>90</sup> An opinion shared by fellow University of Georgia student, Joelle Arp-Dunham, although she saw this as a negative outcome, as opposed to Saltz, who simply noted the inequity between audience experiences.

<sup>91</sup> Allen Partridge, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, January 2003.

he suggests that one “had to watch it many times” to get the full sense of the piece and what it was trying to do.<sup>92</sup>

Saltz indicated that there was a mixing between “live” and online audiences as the production progressed. In house “audience members could go home the next night and reflect /interact online.” He found it compelling that “you could read into the minds of the Internet audience.”<sup>93</sup> This ability to receive feedback from the audience during the production, in a sense strengthens a sense of community or conversation between the artists behind creating the production (the message) and their receivers. Saltz, said, “Night after night [they] returned to say things like ‘I love this scene.’”<sup>94</sup> In general, this suggests a positive overall audience response.

While great strides were made by the production to allow for audience expansion and interaction, the reach is not clear. Online audience location and access were not uniform. Saltz noted that audience members typing in from Texas indicated the far reach of the online extension of the performance, but also noted that as a local online observer he did not indicate “where he was from.” (His comment indicated that this lack of tracking, basing online audience location on self-identification, might lead one to question the variety of claims of distance or location). Georgia graduate student (and audience member), Joelle Arp-Dunham noted that while the “same people typed in over and over,” she was not able to connect from standard/slow home connection of a

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<sup>92</sup> Allen Partridge, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, January 2003.

<sup>93</sup> David Z. Saltz, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, January 2003.

<sup>94</sup> David Z. Saltz, in “The Search for Digital Theatre,” by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, January 2003.

relative.<sup>95</sup> Yet the production is significant in that it shows the possibility of extending the creative community to online audience/participants and gives us a peak into the possibilities of audience expansion via online broadcast. Perhaps, if the in-house and online audiences had been networked together and equally able to influence events or communicate, there could have been a sense of a mixed live/mediated audience which was both (in some part) physically present and aware or existing outside the geographical theatre building.

Models for the formation of online scripts include George Coates' *Crazy Wisdom Sho*, which also demonstrates the immediate impact of online audiences on stage action as seen in the University of Georgia's *Living Newspaper* and through the incorporation of volunteered media in *Maggie's Love Bites*. Scripts may also be considered in terms of how scripts are built around multiple world views shaped by global media as in the case of the Builder's Association's *Aladdeen*.

### **Participation: Audiences as Sceneographers**

In some cases the online audience shapes the performance by providing other types of content, acting in a sense as scenic designers, musicians, or even actors along with the primary online performers. One such example of this can be seen in the performance of *M@ggie's Love Bytes*.

#### ***M@ggie's Love Bytes***

*M@ggie's Love Bytes*, was a long-running (1995-1999) online and "live" performance by Motherboard, co-directed by Amanda Steggell and Peter Platou. Local

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<sup>95</sup> David Z. Saltz, in "The Search for Digital Theatre," by Nadja Masura, <http://www.digthet.com/visits.html>, and in discussion with the author, January 2003.

performances occurred throughout the world in locations in Amsterdam, England, Australia, Prague, Cologne, and Norway. According to site statements *M@ggie's Love Bytes*, was a “combined media dance performances in real and virtual space, where dancers interact with multi-layered sound, text and real-time video images through net facilities.”<sup>96</sup> But who—or what—was M@ggie?<sup>97</sup>

M@ggie was a genderized fiction, a blonde-wigged woman in a black bra bearing a plunger who plays out cyber-fantasies amongst fragments of audience input and a collage of modern images, sounds, and videos on our web browsers. In short, M@ggie was a creation of technology, a cyber character. While the multiple women who played her may originate from one location, one place, she is representative of a new type of character without a physical sense of roots, a creation of the cyber-age. As a reflection of desire for intimacy or sexuality which is often sublimated by Internet connections in chatrooms and porn sites, M@ggie was the creation of the minds of both her choreographers and of the collaborative efforts of her audience. M@ggie is, in part, a reflection of the desires of her audience.

Through her tool (a plunger) and her play at gender assignment she created a new type of artificially gendered character. She identified her place, her location, her origin,

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<sup>96</sup> Connecting Bodies Symposium Website, School of Modern Dance, Amsterdam, Holland, 1996, <http://huizen.dds.nl/~sdela/boi/sympos.htm> (accessed June, 2003).

<sup>97</sup> “Hello my name is M@ggie, and I’m a persona. Since 1995 I’ve been performing via video teleconferencing facilities available to anybody with a computer, a telephone line, a modem and a camera. I’m also a cyber fem...and what makes me a cyberfem is my very special tool, or weapon, if you like. Here I’ll show it to you. This tool epitomizes the digital gender binary we so often hear spoken about connected to cyberspace being both feminine and masculine at the same time, (she manipulates her plunger) 0, 1, 0, 1, 0, 1. Well, I hope you are all enjoying the show...and if you haven’t seen me in the flesh yet, I assure you, you will do, soon.” Amanda Steggell, and Per Platou, “M@ggie's Love Bytes Info,” <http://www.notam02.no/~amandajs/mainpage.html> (accessed July, 2004).

as cyber rather than having a physical geography.<sup>98</sup> The collaboration which occurs between the performers and the international online audience creates a truly unique performance situation and location.<sup>99</sup> While the material of M@ggie's performance is hardly without cultural context, in many ways she (the performed persona called M@ggie) is a global character—existing in cyberspace, and having a fictional or immaterial origin. Her construction and her domain forms through the multi-layered collaborative process of her performances.

In the case of *M@ggie's Love Bites*, a sense of performative community grew out of the ability to send sound and video files to be incorporated in the performance. One scholar writes that M@ggie's "communication between the Internet participant and the dancers appeared to be two-way. Participants communicated by submitting a multimedia file and then saw the dancers respond immediately via the screen. This allowed the participants to send other files in reply to the dancers. It was this direct, synchronous, two-way communication in *M@ggie's Love Bites* that provided such a strong sense of participation."<sup>100</sup> Through offering herself everyone who had a computer and internet connection, in a collaborative way, M@ggie's performance and the construction of her

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<sup>98</sup> "Cyberspace is the space of apparition, in which the virtual and the real not only co-exist, but co-evolve in a cultural complexity." Steggell and Platou, "M@ggie's Love Bytes Info," (no pagination).

<sup>99</sup> Many other productions including *Foolish Wisdom* by George Coates, *Hand Drawn Spaces* by Satorimedia and others have incorporated audience materials directly from the web into performance. Due to the length of M@ggie's run her audience developed into a cult following which may have had a stronger affect on the shape of the character and its performance to an unparalleled extent. Because her performance is directly related to the visual, audio, and text input relayed to the mobile performance site of the dancer(s) playing M@ggie and mixed by various DJs, it is difficult to fit this form of collaboration into existing intercultural models. There is no source culture per se (she does not identify her nationality except as a cyber fem) and no specified target culture as the nationality and performance place are open to all viewers of the net (though the character speaks in English, the project receives files from all nationalities).

<sup>100</sup> Sita Popat, and Jacqueline Smith-Autard, "Dance-Making on the Internet: Can On-Line Choreographic Projects Foster Creativity in the User-Participant?" *Leonardo* 35, no. 1 (2002): 34.

character exemplified the Open Source of early web technology.<sup>101</sup> M@ggie reached out to a global audience that surfed in from places such as San Francisco, Berlin, Chicago, Yokohama Japan, and England.<sup>102</sup>

In *M@ggie's Gift Box*, (one part of the performance's website) a partial record of the types of files transmitted to Maggie during performance to incorporate into her act, one will find midi and other audio clips which she danced to ranging from country, to rock, and reggae (including M@ggie's theme song performed by Red Bone).<sup>103</sup> One may also find several spoken audio clips ranging from computer synthesized voices to phone messages, text poems, and images and video images (3D model animation, and manipulated video). These stills and video clips were projected behind the performing M@ggie(s) and transmitted back to the web audience. It is estimated that up to half of the sound files played were received live from the web audience.<sup>104</sup> The audience could then respond to the performance of their media through chat windows, sending text, or submitting new files.<sup>105</sup>

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<sup>101</sup> Thomas Goetz, "Open Source Everywhere," *Wired* 11.11 (November 2003), [www.wired.com/wired/archive/11.11/opensource.html](http://www.wired.com/wired/archive/11.11/opensource.html). Open Source is a collaborative approach to creating new computer works (initially programs). It is called open source "because the collaboration is open to all and its source code is freely shared and uses piecemeal to build a better whole." According to Goetz, "Open source projects succeed when a broad group of contributors recognize the same need and agree on how to meet it." Note that early stages of proprietary software is offered on the web sites' how to or tool box section. This is an example of Open Source behavior.

<sup>102</sup> While there are limitations to who has access to this equipment, no one nation or culture is specifically contacted or refused. Perhaps this is a new model for intercultural performance. See Birringer, Johannes, "Contemporary Performance/Technology," *Theatre Journal* 51.4 (1999): 375.

<sup>103</sup> Eirik Befring, "Kick or Music?" (March 9, 1996) <http://www.notam02.no/~amandajs/review.html> (accessed July, 2004). Norwegian freelance journalist Eirik Befring writes of the use of "good old-fashioned instruments" including a guitar and an Indian pump organ.

<sup>104</sup> Sita Popat, and Jeffrey Gray Miller, "Touchdown: a collaborative internet performance," [http://dpa.ntu.ac.uk/dpa\\_site/papers/popat1.htm](http://dpa.ntu.ac.uk/dpa_site/papers/popat1.htm).

<sup>105</sup> Motherboard, directed by Amanda Steggell and Per Platou, created *M@ggie's Love Bytes* (1995). It is a piece often referred to as a 'post-modem' dance theatre performance occurring in virtual

Johannes Birringer writes:

*M@aggy's Love Bytes* opens up the possibility, which has also been explored in spatially separate music concerts linked up via satellite or Internet, to stage a dance concert in one location to a real-time audience while inviting the input participation of other artists, connected via modem and Internet, so that externally transmitted video images (from QuickTime cameras), sound-samples, voices and texts can be instantaneously integrated and layered onto the closed-circuit video projection and soundmix in the real space.<sup>106</sup>

Sita Popat and Johannes Berringer and myself have all remarked on the performance as a model for online collaboration which encourages participation.<sup>107</sup> In the case of *M@ggie's Love Bites*, performance community grew out of the ability to send sound and video files to be incorporated in the performance. M@ggie's "communication between the Internet participant and the dancers appeared to be two-way. Participants communicated by submitting a multimedia file and then saw the dancers respond immediately via the screen. This allowed the participants to send other files in reply to

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space. "Realtime video-conferencing facilities connected Motherboard with geographically dispersed dancers and musicians via the Internet. Equipped with a 'plunger', the 'lovers' interacted with M@ggie, and the resulting images were projected onto a wall behind her...New participants were allowed to enter the project at any time during the performance and to deposit audio or visual presents in M@ggie's Giftbox via her homepage." Günter Berghaus, *Avant-Garde Performance: Live Events and Electronic Technologies* (New York: Palgrave Macmillan, 2005), 232.

<sup>106</sup> Johannes Birringer, Johannes, "Contemporary Performance/Technology," *Theatre Journal* 51.4 (1999): 375.

<sup>107</sup> In a paper for ATHE's emerging scholars' panel, I wrote that, in many ways the multidirectional exchange between M@ggie and the audience/collaborators is one of the closest to achieving a point of mutual collaboration in a telematic, interstitial, active space or multi-nodal space in cyberspace. Which seems similar core idea to an article I found since then: "The intermixing of analog and telematic media in this installation project suggests that interactive electronic art does not depend on a particular technological mode (analog, digital, radio, video, modem, satellite) but on the quality or conceptual structure of the meeting points and conduits of interactive levels." Johannes Birringer, Johannes, "Contemporary Performance/Technology," *Theatre Journal* 51.4 (1999): 375; "As expected, *M@ggie's Love Bytes* is indeed a very informal experience and therefore is a supportive and non-judgmental environment for the participant. The motivation to create is in its immediacy, as the interviewees stated in their descriptions. Technological skills are required to download the correct software for viewing via the Internet, but dance-specific skills are not necessary, as the participant does not take part in the choreography." Sita Popat, and Jacqueline Smith-Autard, "Dance-Making on the Internet: Can On-Line Choreographic Projects Foster Creativity in the User-Participant?" *Leonardo* 35, no. 1 (2002): 35.



the dancers. It was this direct, synchronous, two-way communication in *M@ggie's Love Bytes* that provided such a strong sense of participation.”<sup>108</sup>

Through the continuous presence of a chat window for feedback and real-time video showing the exchange of content as it is performed, the audience stays an active member of the creative team for as long as they choose to participate. Sita Popat and Jacqueline Smith-Autard describe the performance:

Throughout the performance, viewers took part via Internet videoconferencing in a discussion that was displayed in a ‘chat window.’ ...Some of the Internet participants had been specifically invited and had prepared sounds or images to send as part of the performance. Amanda Steggell, as choreographer, cued these elements using pre-arranged words or signals, but also received offerings from other participants...Steggell estimated that 50 percent of the sound used at this particular performance was sent by participants over the Internet...The significance of participants’ input to the dance product was not as great as expected, because, while some of the dance was improvised, large sections were pre-choreographed, with audio cues to indicate when the dancers should begin a particular section.<sup>109</sup>

Popat describes *M@ggie's Love Bytes* as a positive example of Abb’s model of a complete cycle of creativity and participation or creative interplay between online audience/participant and a localized performer. She states that the cycle of creativity occurs with the participants taking part in phase one, then watching phases two and three. This gives the participants the ability to offer more feedback than expected by the authors due to the continuous communication.<sup>110</sup>

She continues saying:

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<sup>108</sup> Popat, and Smith-Autard, “Dance-Making on the Internet,” 34.

<sup>109</sup> Popat, and Smith-Autard, “Dance-Making on the Internet,” 35.

<sup>110</sup> Popat, and Smith-Autard, “Dance-Making on the Internet,” 35.

Only *M@ggie's Love Bytes* completes the cycle. The participant submits a stimulus at phase one. He or she then watches the dancers work through phases two and three, creating and forming material through the act of improvisation. On viewing the dance (phase four), the participant may then respond either in text or by submitting another stimulus. The full cycle takes place by connecting artists and participants through synchronous, two-way communication.<sup>111</sup>

*M@ggie's Love Bytes* shows a compelling ability to incorporate the online audiences into the creative process and community of creative participants.

Like *M@ggie's Love Bytes*, ArtGrid allows multiple online sites to contribute content. Unlike *M@ggie*, this ability is shared primarily through a unified platform, which potentially allows all users to become audiences and the sites of local audiences, multiplying the possibilities for both performance and audience reception exponentially.

### ***ArtGrid Community and the Multiplicity of Audience***

The ArtGrid performance community, discussed in the last chapter, is also a performative community. Due to the presence and dependence of multiple video cameras and display-systems, interactions in the community itself take on a performative nature. Part of the experience of the Access Grid is the performance of self, from the inherent voyeurism and narcissism of initial hyper-self-awareness of being an early user of the Grid interface and playful behavior and performances discussed earlier.<sup>112</sup> Due to the

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<sup>111</sup> Popat, and Smith-Autard, "Dance-Making on the Internet," 34.

<sup>112</sup> Early on, as a novice to the community I could be both drawn in, and felt uneasy with the constant reflection of myself within the performative community. Later in rehearsal, I found it very distracting to split my focus between my mediated self shown onscreen, and others whose cues I was exchanging via windows on my laptop PIG. I watched myself being watched by others, and stared myself in the face as I tried to simply converse with others in a meeting. I had the sense that I was a historian recording my own presence; a performer for my own amusement. I would wear solid colors for better visibility, adjust my posture for presentation, and guiltily found myself adjusting my position in relation to the camera angle. This was at times both addictive and disconcerting. Even as my interactions with the

constantly shifting point of view in which you are primarily aware of your role one moment as the observer and the next as the observed, performance of self becomes a major aspect in the interaction.<sup>113</sup>

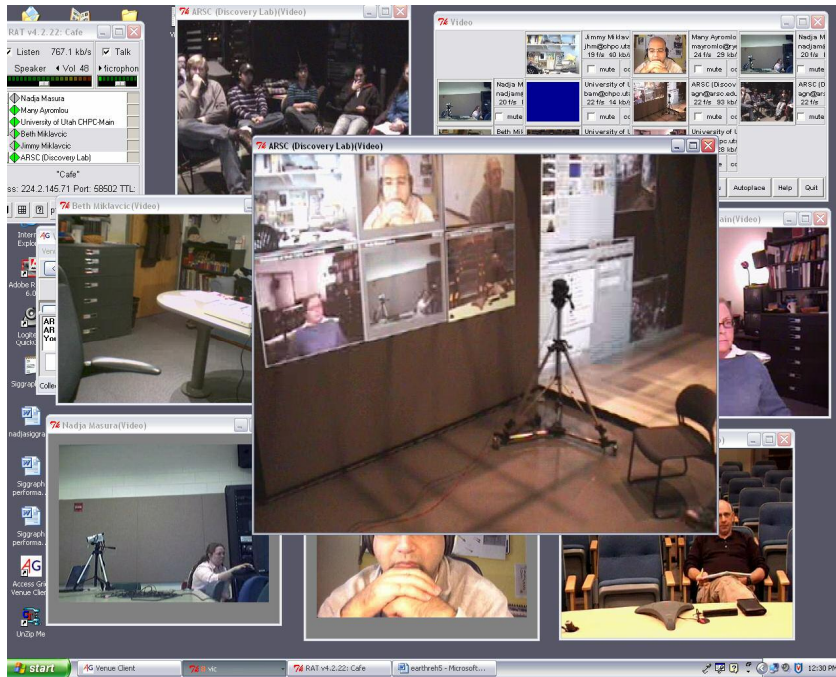


Fig. 80: Observing being observed. Screenshot by author.

Baz Kershaw wrote “we are always looking for ourselves in the spectacle, both on and off the screens.”<sup>114</sup> His description of an “endlessly recessive mirror,”<sup>115</sup> concisely estimates the experience and performative nature of ArtGrid community, where even when not performing a piece of art, one has the experience of endlessly watching, being

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group became more frequent, every once in a while I would be struck by a sense of voyeurism in the environment. I was aware that my image was on display elsewhere which leads to a certain performance of self as the object of observation. In the very act of listening/watching, one is being watched. I will further discuss this in terms of the blurring between roles of audience and performer.

<sup>113</sup> In addition to visual self-consciousness and performing oneself as a competent technologist or enthusiastic artist (or what have you), the community is performative in marking “I am here” in other ways.

<sup>114</sup> Baz Kershaw, “Curiosity or Contempt: On Spectacle, the Human, and Activism,” *Theatre Journal* 55 (2003): 606.

<sup>115</sup> Kershaw, “Curiosity or Contempt,” 611.

watched, and seeing yourself being watched.<sup>116</sup> Before the use of Utah's digital theatre venue, voyeurism had an especially strong presence within the Access Grid venues used for meetings, in the periphery between the community and the outer, transient Grid audience. I became aware that my image was on display elsewhere which led to a certain performance of self as the object of observation. In the very act of listening/watching, one is being watched.

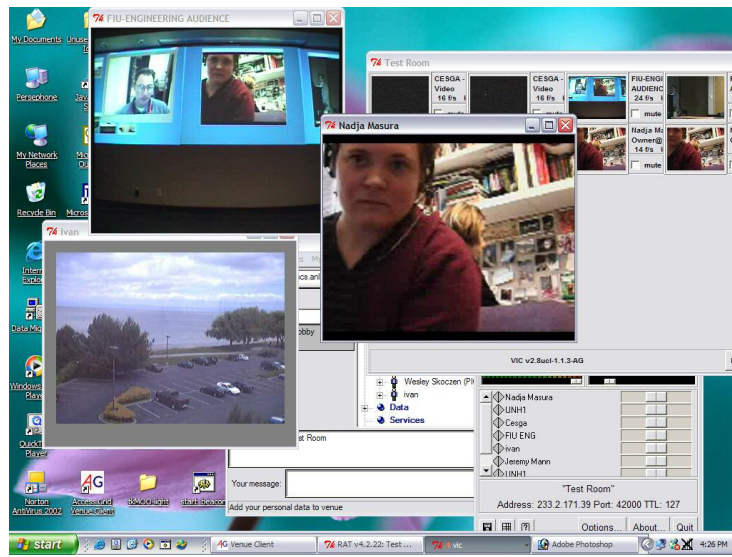


Fig. 81: Here I came into a venue and saw myself on somebody's display panel. Screenshot by author.

This recursive voyeurism alters one's perceptions of a definite audience or performer as it creates a sense of performing self as a user of the Grid interface. Within the shared place of the Grid and its art community there is a sense of global presence, a feeling of immersive space, but also of stereoscopic vision and split focus.<sup>117</sup> Feelings of

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<sup>116</sup> It took months for me to acclimate to the hyper-awareness of my own body on camera (looking back at myself, or as observed from some distant party's projection screen). One begins to play to the camera, adjusting your image (via the camera angle), or becoming hyper-aware of your social role in the interaction.

<sup>117</sup> Eye contact or split focus between camera and screen is a factor in conversation as well as in performance. I have found myself making eye contact with the camera when addressed via direct eye contact, and otherwise addressing the screen. At one point I noticed my self-awareness and noted: "watching myself back makes me smile."

self consciousness and constructedness can be unsettling when “seeing you” is taken out of your own hands.

In addition to the ability to watch your audience (or yourself as audience) react to art immediately, you can watch yourself become part of the art or presentation.<sup>118</sup> In Utah’s performance, *Intransitive Senses* I became aware that not only were the feeds of performers such as violinists, guitarists, poets, and actors being projected on to windows at Virginia’s sites, but so was I. Although I began the session as an audience member, I had been made part of Virginia’s viewing experience in their version of the performance. Each site can select its own windows for display, and I was projected larger than life for their viewing pleasure. The scale of my image gave it the visual weight equivalent to the official performance video feeds. The feeling of “watching myself on their wall” during the performance emphasized the open-endedness of interactions on the Grid, but at other times this feeling of “it’s the Nadja show” can become unsettling outside of the time/room coordinates of the ArtGrid community.

The locus of control over the performance event, and what constitutes the performance, the performers and the audiences is chimeral and complicated. The possible addition of sound and visual data from online participants was demonstrated to me early on. When the sound transmission failed from Utah’s first *Interplay, Intransitive Senses*, I listened as fellow ArtGrid audience members added their own sound track.

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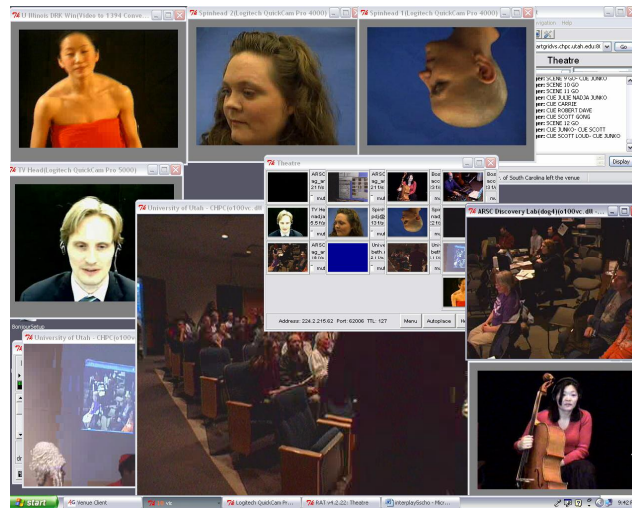
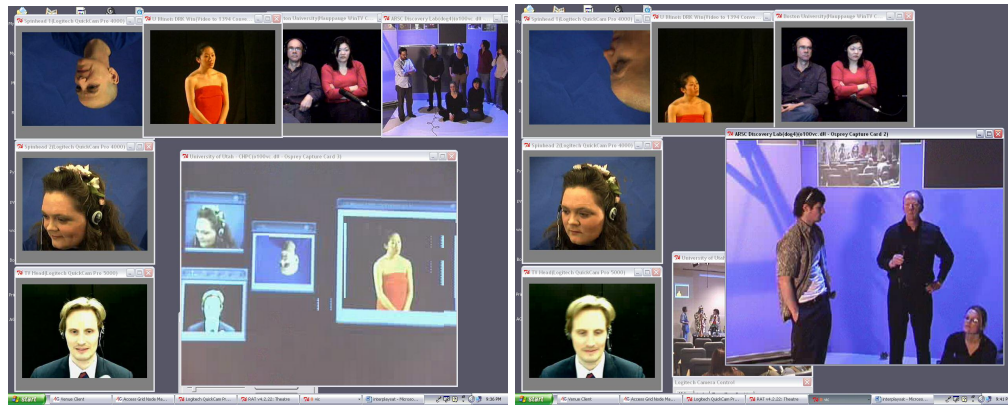
<sup>118</sup> “In this way, imaging and recording technologies, and multimedia computing and the internet, make the space of communication exceedingly complex. Images of us, disconnected from our own intentionality, become separate virtual/digital entities; ghosts or replicants of our original embodied selves. We see the faces or hear the voices of humans in the process of communicating, except that they are not human faces or voices. Instead, we are provided with digital representations of faces or voices or images that have been deconstructed and then reconstructed in a new time or place...” Kent DeSpain, “Come in and Make Yourself at Home: Colonization and the Body/Technology Interface,” *Body Space and Technology* 2, no. 1 (2001), <http://people.brunel.ac.uk/bst/vol0201/kentdespain.html>, (no pagination).

Without sound what I recall is a mix of images including a tea pot and tea party installation, musicians, and a man in black talking in what seemed to be a rant, all mixed with peacock, hyper intense chroma. Because the Access Grid transmission of the production was broadcasted without sound, the virtual audience in Boston not only added video data for our enjoyment, but added their own soundtrack for the performance in the form of a local radio station broadcast. This unintentionally relocates directorial (or at least compositional) control making the online audience into collaborators in a new version of the performance. The role of audience is further bent through added control over online visual imagery in the form of choosing/rearranging windows representing both performers and fellow online audience members.

The idea of audience is multiplied and complicated by ArtGrid performances like *Interplay*. In talkbacks, “local” audiences watch remote performers and audiences in front of their displays which show themselves as part of what they see. In *InterPlays*, for example, the “local” audience is Utah, but really, each site is local for themselves. There is no one local as a distributive performance in cyber-place, each node is local; it’s all local, and all mediated.<sup>119</sup> Is the virtual space in the monitor at this end of the communication or at the other end(s)? The “local” audience now performs “audience” for all the other audiences and performers, and vice versa. It is a recursive or infinite loop of audience participating in the cycle of watching and performing.

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<sup>119</sup> “Is the space therefore bi-local or even multi-local? Instead, we can solve this puzzle by creating and then interacting with an abstract ‘communicative’ space.” Kent deSpain, “Come in and Make Yourself at Home: Colonization and the Body/Technology Interface,” *Body Space and Technology* 2, no. 1 (2001), <http://people.brunel.ac.uk/bst/vol0201/kentdespain.html>.



*Figs. 82, 83, and 84: Performers being viewed; “local” audience being broadcast; and two different “local” audiences being broadcast to each other. Screenshots by author.*

In this type of performance there are participating ArtGrid sites, as well as random visiting ArtGrid audience members, online audiences watching a quicktime feed of the mixed video stream only, and the local audience (relational to wherever you are in space). There may be several ArtGrid sites participating (each potentially with its own co-present audiences as well as performers, artists, and technicians) in addition to ArtGrid audiences which watch and sometime inadvertently<sup>120</sup> contribute their presence,

<sup>120</sup> Members and visitors must monitor their own behavior (in terms of sent audio and placement of video) and roles often blur between audience and participant/performer. Because there were formerly no controls to limit incoming transmissions on first arrival into a Grid room (venue), during our public (live and mediated, local and virtual) performance, group members online had to make announcements to new arrivals not to make noise (to ‘turn off their talk’, i.e. sound transmission) and therefore participate in the show. In one case a production from Utah was broadcasted without sound, and the virtual audience in

viewpoints and possible interaction of local audiences.<sup>121</sup> Each Access Grid site (or rather each of its nodes or PIGs of which there may be many) may arrange how it views the windows containing the action and displays that to the local technicians, performers or local audience. Factor in the fact that all these people performing are also watching, sometimes to get their virtual bearings or mark in relation to others in the mix, sometimes as an on/off camera audience. So clearly there is no one show, just as there is no one audience (or point of view).<sup>122</sup>

What would this look like as a math equation?

$$\mathbf{I} + \mathbf{L} (P \times R \times W (N + X)) + \mathbf{G} (P \times R \times W (N + X)) + \mathbf{M} (V \times R \times W) = \mathbf{Total\ Audience\ Viewpoints}^{123}$$

Where

- I = Internet audience, a unique number of online viewers each night,
- L = Local audience, where let's say at Utah,<sup>124</sup> for example, there are P number of participants and audience members, R number of rooms, and W possible window viewing configurations,
- G = Access Grid participant site audiences, where there are P number of participants and audience members, R number of rooms, and W possible window viewing configurations,
- M = Random ArtGrid audience members, where there are V number of viewers in R number of rooms, and W possible window viewing configurations;

And Where:

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Boston not only added video data for our enjoyment, but added their own soundtrack for the performance in the form of a local radio station.

<sup>121</sup> In Utah's case several rooms with action accessible to wandering audience members are linked along with a central viewing auditorium. In other locations like Alaska a CAVE environment displays graphics and multiple AG feeds for local audiences. At UMD limited local audiences have been present for some shows. In some performances, such as *Outside/In*, it was calculated that online and ArtGrid audiences were higher than the fair sized local group. In *Elements*, local audiences outnumbered ArtGrid audiences.

<sup>122</sup> To complicate things further, now Jimmy acting as a VJ performing remixing recordings of these original and compiled video feeds before various conference audiences, not always with any live performers. Which I think lessens some of the communal performance and theatre quality of then now cinematic event.

<sup>123</sup> This does include traditional viewpoints in terms of the audience's relative position to the live and or mediated actions.

<sup>124</sup> Jimmy indicated that this year each of their performances spaces were able to see a display of the performance as it unfolded on the Access Grid.



- P = Performers + artists + technicians + audience members  
 R = Rooms ranging from a small office to meeting rooms to full auditoriums  
 W = Possible arrangement of windows  
 Where  
 N = Number of participant site video streams, usually 2 or more per site,  
 with approximately 6 sites participating,  
 X = Main Mix, from Utah, for example

What does this fracturing of viewpoints, and tremendous multiplication of audiences and possible performers mean? The truth is that I don't know. After four years of working with the group, performing with the media (and between mediums), the art form is still evolving as is its technology. The whole experience is an act of questioning and reevaluating prior assumptions. One thing this multiplicity points to is the infinite nature of possibilities. The other, is the prevalence of performativity in our culture. Arendt once wrote: "The presence of others who see what we see and hear what we hear assures us of the reality of the world and ourselves."<sup>125</sup> What once Postman attributed to the TV entertainment ethos conditioned society, is vastly increased in today's society where everyone is holding the video camera.<sup>126</sup> Alice Rayer once wrote that, "Solo performance of personal material is what one could call a twenty-first-century cogito (I perform therefore I am). Indeed, performance provides assurance that a life is actual, even if it (a

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<sup>125</sup> Arendt, *The Human Condition*, 50.

<sup>126</sup> "Television is our culture's principal mode of knowing about itself. Therefore—and this is the critical point—how television stages the world becomes the model for how the world is properly to be staged. It is not merely that on the television screen entertainment is the metaphor for all discourse. It is that off the screen the same metaphor prevails. As typography once dictated the style of conducting politics, religion, business, education, law and other important social matters, television now takes command. In courtrooms, classrooms, operating rooms board rooms, churches and even airplanes Americans no longer talk to each other they entertain each other. They do not exchange ideas; they exchange images. They do not argue with propositions; they argue with good looks, celebrities and commercials." Postman, *Amusing Ourselves to Death*, 92-93. "The nature of its discourse is changing as the demarcation line between what is show business and what is not becomes harder to see with each passing day." Postman, *Amusing Ourselves to Death*, 98.

subject, identity, story) is not exactly true.”<sup>127</sup> It would add to this, that to an extent everyone webcasting into the internet is in their own solo-performance, and while this new cogito supports a sense of egotism, a new sense of public<sup>128</sup> is being built out of the multiple performances of self, character, and community.

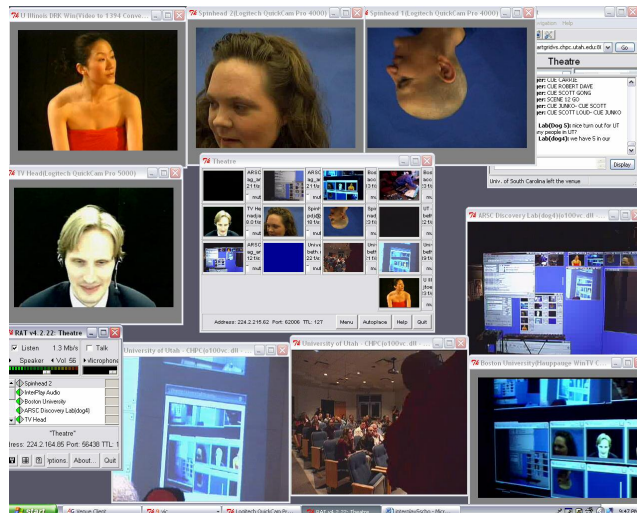


Fig. 85: Multiple sites, multiple views. Screenshot by author.

Another aspect of multiples of open collaboration can be seen in collective efforts of online audiences in the performance of telematic, and especially telepresent art.

## Telematics as Community Participation

Telematics and especially Telepresence are powerful tools in the creation of a sense of virtual community through participation.<sup>129</sup> Bruce Breland notes that,

<sup>127</sup> Alice Rayner, “E-Scapes: Performance in the Time of Cyberspace,” in *Land/Scape/Theater*, edited by Elinor Fuchs, and Una Chaudhuri, 350-370 (Ann Arbor: The University of Michigan Press, 2002), 367.

<sup>128</sup> “For the *polis* was for the Greeks, as the *res publica* was for the Romans, first of all their guarantee against the futility of individual life, the space protected against this futility and reserved for the relative permanence, if not immortality, of mortals.” Arendt, *The Human Condition*, 56.

<sup>129</sup> “Telepresence, by contrast, uses computers, telecommunications and robotics to conjoin two or more real-world locations.” David Z. Saltz, “The Collaborative Subject: Telerobotic Performance and Identity,” *Theatre Research* 6, no. 4 (2001): 70. Eduardo Kac, a prominent theorist and creator of telepresence art, suggests that the most significant characteristic of telepresence is the primacy of real time over real space. Kac suggests that the shortest distance between two points is no longer a straight line, but

The concept of interactive systems has erased the old boundaries of regionalism or nationalistic art. Telematics has created the possibility of a new setting for interactive participation between individuals and groups. Telematics provides a means for instantaneous and immediate dissemination of information granting the individual a choice between simple retrieval or intricate collaborative art events.<sup>130</sup>

What is essential to today's telematic performance is the experience of connection and agency in a distant but linked environment. This type of art-making and performance depends upon the functionality and audience awareness of links between distant places (like those mentioned earlier between Paris, Brussels, and London in Victorian times). These links, now often facilitated through Internet connections, constitute ties between nodes of a temporary networked community. For as long as the performance or piece exists and evidences connection through interaction, there is a perceptual tie between locations and audience/participants at these locations, however distant, and thus a sense of temporary community.

In addition to publishing or broadcasting to expand the onsite audiences, the Internet has been used to expand community through a sense of hands-on participation. Often in telematic pieces the onus of creating action, or using the connection in order to make it observable, causes the audience member to become a participant—to send a message, trigger a reaction, or respond to sent data.<sup>131</sup> Edward A. Shanken has defined telematics as “computer-mediated communications networking between geographically

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that the shortest distance between two points is real time. See Eduardo Kac, *Telepresence and Bio Art: Networking Humans, Rabbits, and Robots* (Ann Arbor: University of Michigan Press, 2005), 3-51.

<sup>130</sup> Bruce Breland, Director of the group, quoted in Eduardo Kac, “Aspects of the Aesthetics of Telecommunications,” in *Siggraph Visual Proceedings*, edited by John Grimes and Gray Lorig (New York: ACM, 1992), 34.

<sup>131</sup> In some senses this shifts the event from being a theatrical entertainment where message data flows primarily from sender to receiver to being a conversational model where information passes back and forth between conversants who alternate sending and receiving.

dispersed individuals and institutions...and between human mind and artificial systems of intelligence and perception...(which) challenges the traditional relationship between active viewing subjects and passive art objects by creating interactive, behavioral contexts for remote aesthetic encounters.”<sup>132</sup>

The term telepresence is especially important in understanding the creation of what Dr. David Saltz termed “the collaborative subject.”<sup>133</sup> Saltz explains:

“...just as one can collapse the distance between multiple geographic locations to produce a single virtual space, one can, in so doing, collapse the distinction between multiple subjects to produce a single virtual subject. I call this kind of subject a ‘collaborative subject.’”<sup>134</sup> He continues, saying that a collaborative subject is not anchored in any pre-existing, individual subjectivity, but instead, it relies on the “contributions of multiple subjects to synthesize a single virtual subject.”<sup>135</sup> A sense of having the ability to effect distant locations, can expand the individuals sense of reach (such as having a mechanical arm which allows one to move objects on a distant dinner table), and lead to a sense of collective agency.<sup>136</sup> The need to reconnect and make physical contact on a global level can be seen in many works which distribute agency.

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<sup>132</sup> Edward A. Shanken, “From Cybernetics to Telematics,” in *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness*, by Roy Ascott (Berkeley: University California Press, 2003), 1.

<sup>133</sup> Dr. Saltz defined telepresence as: “computers, telecommunications and robotics to conjoin two or more real-world locations.” Saltz, “The Collaborative Subject,” 70.

<sup>134</sup> Saltz, “The Collaborative Subject,” 70.

<sup>135</sup> Saltz, “The Collaborative Subject,” 75.

<sup>136</sup> “Today, our increasing remote control of the world—what we call telepresence or telematics—indicates a need to rearticulate what it means to have a body, and the perceptual limits of that body. I.e. the ‘corporeal schema’ of the body is perhaps changing according to the perceptual augmentations provided to us by new technologies.” Richardson, and Harper, “Corporeal Virtuality,” (no pagination).

One of the most effective and touching examples of telepresence is Eduardo Kac's *Teleporting an Unknown State* (1994-1996) which allowed people across the globe to collectively tend to a plant.<sup>137</sup> Here Internet users cared for and nurtured a plant, giving it light and water, thus forming a community sharing the responsibility for its growth. David Saltz writes of a similar work, saying, "*The Telegarden* exemplifies a straightforward example of group action, wherein a number of distinct subjects performing individual actions work in concert to pursue a common goal."<sup>138</sup> Although this type of event is more akin to art-making (located in a gallery) than theatrical performance (with actors on stage), the idea of allowing for agency and a sense of an extended community of inter-actors, is powerful. However, one can see the potential for allowing community involvement to shape dramatic outcome or actions in the theatrical event.

The final area for discussion in this chapter also pushes outside the bounds of Digital Theatre for the most part, but can be utilized as a tool for future performances. The use of Virtual Reality immersive environments as acting spaces or places for performative behavior butts right up against the theatrical.

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<sup>137</sup> Kac "plants a seed in a dark-room and the only light source (projector) overhead displaying the light collected from volunteer participants around the world who digitally capture local light and convey it, via the Internet, to the exhibition space. Thus, it is the combined effort of the participants around the world and the global communication technologies that allows the seed to germinate and ultimately thrive." Robert Pepperell, Review of *Teleporting an Unknown State*, by Eduardo Kac, *Leonardo* 34, no. 2 (2001): 165.

<sup>138</sup> Saltz, "The Collaborative Subject," 76.

## VR Environments: Participants as Actors, not Audience

Virtual Reality environments create immersive illusionary places which require the audience to behave as participants to drive the action.<sup>139</sup> In this capacity, they engage in full dialogue with the environment and become the actor or players rather remaining in the role of an audience. Without their participation, no action would unfold. In a sense there is no longer an audience, only participants. This high levels interactivity between participant and the Virtual Reality environment, signals the end of the theatrical. However, there are some who would explore the thin membrane between VR interaction and performance.

In his piece entitled “The Nature of Spectatorial Distance in VR Theatre,” David-Michael Allen comments on theatre’s interactive and immersive qualities stating:

It is this interactive and immersive quality of theatre which links it so well with digital media (and Virtual Reality), but also puts the two forms at odds if interactivity and extreme levels of participation lead to a supplanting of the actor by the audience-participant.<sup>140</sup>

Virtual Reality is perhaps one of the best expressions of both cyber-space placelessness and the creation of flexible, protean worlds where anything is possible as one is immersed in a magical synthetic world. The use of Virtual Reality devices, affect the size and perhaps the nature of an audience. Because the point of most Virtual Reality games or artworks is to give the user the experience of first hand interactivity with the environment, allowing him or her to move through a computer modeled landscape,

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<sup>139</sup> Immersive: “...it is a system in which reality itself (that is, people’s material/symbolic existence) is entirely captured fully immersed in a virtual image setting, in the world of make believe, in which appearances are not just on the screen through which experience is communicated, but they become the experience.” Castells, *The Rise of the Network Society*, 373; Illusionary places: “Virtual reality systems fully immerse a subject in a computer-simulated environment, a purely virtual space with no physical, real—world spatial coordinates.” Saltz, “The Collaborative Subject,” 70.

<sup>140</sup> Allen, “The Nature of Spectoral Distance in VR Theatre,” 245.

“touching” and triggering objects with a data glove in the synthesized realm; there is very little room for watching others perform since the emphasis is on doing.<sup>141</sup> Most CAVE or Virtual Reality environments have limited audience potential interactive spaces for the active play of a few individuals, where as VR techniques can be used in theatre spaces which have been equipped with Virtual Reality goggles on the scale which facilitates spectatorship, and Digital Theatre. In “The Nature of Spectatorial Distance in VR Theatre,” David-Michael Allen cites Reaney when he state that theatre has typically been a communal experience where a large group of people gather together to share an experience, adding “whereas the VR event is often limited to one person...six people at most...”<sup>142</sup>

One well known immersive VR performance experiment is Brenda Laurel’s environmental piece *Placeholder* which allowed participants to immerse themselves in a series of “outdoor” environments from the point of view of the animal inhabitants.<sup>143</sup> Because the

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<sup>141</sup> “Information from the glove is transmitted to the host computer to represent what the hand is doing at any moment. In the current, commercially available DataGlove...Position and orientation combined with the finger bend is used to control a graphic model of the hand in the virtual environment or to control a remote robot hand. With this capability the user can pick up and manipulate virtual objects that appear in the surrounding virtual environment...For example, pointing with one finger moves your viewpoint through the computer-generated environment as if you were flying through that space, with the distance between your finger and your body determining your velocity; making a fist lets you grab different objects; and using a three-finger point invokes a menu floating in visual space that you can then use to choose other subroutines or information displays...the capability for tactile feedback. An array of very small solenoid actuators has been assembled that will present a sense of texture as you touch a virtual object and, for example, if you’re touching an edge of a virtual cube, as you intersect the edge of the cube, one line of the array of solenoids is triggered to present some sense of edgeness.” Fisher, “Virtual Interface Environments (1989),” 244.

<sup>142</sup> David-Michael Allen, “The Nature of Spectoral Distance in VR Theatre,” in *Thatre in Cyberspace: Issues of Teaching, Acting, and Directing*, edited by Stephen A. Schrum, 1-6 (New York: Peter Lang Publishing, 1999), 245.

<sup>143</sup> “Brenda Laurel and Rachel Strickland’s interactive drama Placeholder is one of the best-known attempts to create a performance in which the spectators interact directly with the technology.” Geoffrey Rockwell, and Andrew Mactavish, “Multimedia,” in *A Companion to Digital Humanities*, edited by Susan Schreibman, Ray Siemens, and John Unsworth, 108-120 (Maiden, MA: Blackwell Publishing, 2004), 128; *Placeholder* was best described as: “a virtual reality project which explores a new model for narrative

emphasis was placed on the individual's interaction with the interface and building narratives, there is a sense of isolation without any direct reference to or reflection of audience or co-presence in any unmediated sense. It is possible that performative interaction occurred, however the emphasis was still on doing, and interacting first hand rather than being performed for.<sup>144</sup>

*Blind Date* by Isabel C. Valverde was a "multi-user choreographic environment" or VR performance installation.<sup>145</sup> The project is summarized as:

a multi-user moving environment for 4 visitors at a time (2 performers + 2 users)...two participants move the avatars on the screen<sup>146</sup> while watching the performers' response...[users] control the avatar of the performer through a remote computer...type words, wishes or commands from our keyboard directly to a video-viewing system...user and dancer share the same screen/avatar image, which is manipulated by the user and followed by the dancer...The whole performance is also available on the Internet where the viewer watches her real time reactions through a video-window...visitors are offered the opportunity to experience themselves in

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action in virtual environments. Three-dimensional videographic scene elements, spatialized sounds and voices, and embodiment as petroglyphic spirit animals were employed to construct a composite landscape that could be visited concurrently by two physically remote participants wearing head-mounted displays, who were guided by a disembodied 'Voice of the Goddess' as they walked about, conversed, used both hands to touch and move virtual objects, and recorded fragments of their own narratives in three separate worlds." Allen Partridge, "Culture Shock: The Impact of Hypermedia Technology on Theatre," Online Discussion Forum, Interdisciplinary Fine Arts program at Texas Tech University, Lubbock, TX (1996); One can be a crow, spider, fish, and snake, each with their own vision and movement characteristics. Brenda Laurel, Rachel Strickland, and Rob Tow, Interval Research Corporation, "Placeholder: Landscape and Narrative in Virtual Environments," *ACM Computer Graphics Quarterly* 28, no. 2 (May, 1994), [http://www.tauzero.com/Brenda\\_Laurel/Severed\\_Heads/CGQ\\_Placeholder.html](http://www.tauzero.com/Brenda_Laurel/Severed_Heads/CGQ_Placeholder.html), (accessed 12 October, 2002).

<sup>144</sup> With multiple participants allowed within the playing space at once, it is possible that there were performative moments in which participants encountered another in their animal form and watched each other engage in actions that could be considered a performance.

<sup>145</sup> The project asked the question: "What happens if two persons meet/date in a dark room completely blind to one another if not for avatars that represent them as seen through VR glasses?" Isabel C. Valverde, "Blind Date: Developing a Multisensorial Interfacing Experience," *Body Space and Technology* 1, no. 4 (2001), <http://people.brunel.ac.uk/bst/vol04/isabelvalverde.html>, (no pagination).

<sup>146</sup> Two users controlled the avatars with a series of fourteen "clickable buttons/keys at the bottom, naming the avatars' translation in space, including front/back right/left, and head rotation right/left, in addition to the body limbs' movement / rotation up/down left/right." Valverde, "Blind Date," (no pagination).



two 'places' at once as they practice the continuity of physicality and virtuality."<sup>147</sup>

*Blind Date* offers an interesting perspective on the simultaneity of place and the primacy over the virtual over the real.<sup>148</sup> However like the previous examples, the performance/experience emphasizes doing over observing, participation over observation. Audiences are small and highly involved in shaping the work and their own experience. The emphasis of the experience is placed on participation, and the user's control over the performance.<sup>149</sup> Not only is this participant no-longer a passive audience, but they have gained more agency, and perhaps artistic control than the performer.<sup>150</sup> Although the temporary community of audience co-presence is diminished, Valverde suggests that a new kind of interaction between performer and participant which might constitute a performative awareness and communal type of communication.<sup>151</sup>

Similarly, Virtual Reality "rides" now found at most amusement parks blur the line between amusement and performance. In some cases a Virtual Reality ride (consisting of timed

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<sup>147</sup> Valverde, "Blind Date," (no pagination).

<sup>148</sup> "Vision of the physical space and of the other performer is erased and replaced by the VR glasstron glasses' avatar image. Starting with two parallel systems, the two 'solo' performers follow their users' choreographic instruction at will, as these proceed they watch the performers responses on a video monitor. Sooner or later however, performers and/or users become aware of each others and may depend on their physical body to move, whether wanting or avoiding entering in to physical contact with the other performer." Valverde, "Blind Date," (no pagination).

<sup>149</sup> "Its open informality took people by surprise and made them participate more easily, as they were able to directly perceive others engaging with it, or simply see the work's inviting gear – the VR glasses and cables laying in the middle of the delimited space." Valverde, "Blind Date," (no pagination).

<sup>150</sup> "The movement instructions were restricted to up/down and right/left limb movements, slowly moving a stick figure...at each mouse click on the respective keys at the bottom of the screen. The overall situation was purposefully robotic, establishing a one-to-one voyeuristic operator, apparently leaving no space for the dancer to play." Valverde, "Blind Date," (no pagination).

<sup>151</sup> Valverde writes: "Continuing to follow the avatar as it moved in space, I finally came into contact with my partner. The shift of my attention to the touch dialogue that began to happen between us, where was it going, and the quality of this touch was so intense that I realized I had for a while become completely blind to the avatar, and instead was seeing through my skin and the felt weight exchange. If the avatar was there and being moved I completely stopped seeing it, being completely absorbed by the touch going on." Valverde, "Blind Date," (no pagination).

hydraulics, and 3-D projection) can also contain actors as guides or even human special effects.<sup>152</sup> We will return to this idea of headsets causing a sense of uniqueness (and possibly isolation) in Digital Theatre, as shown in the case of Ronald A. Willis' 1996 production of *Wings*.

### **Virtual Digital Theatre: *Wings***

By equipping an audience with VR goggles and using stereographic projection, theatre artists like Mark Reaney and George Coates<sup>153</sup> have attempted to span the visual gap between live performer and the projected background, and thus expanded the whole theatre into a Virtual Reality environment. Many of Reaney's sets (including *A Midsummer Night's Dream* and with the noted exception of *The Magic Flute*) used VR goggles to visual meld the virtual place of the computer generated data-scape and the

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<sup>152</sup> For example, see Arthur Levine, "Hasta la vista-Vision," <http://theparks.about.com/cs/universalparks/a/UniversalT23D.htm>. See also Angela Ndalianis, "Special Effects, Morphing Magic, and the 1990s Cinema of Attractions," in *Meta Morphing: Visual Transformation and the Culture of Quick-Change*, edited by Vivian Sobchack, 251-271 (Minneapolis and London: University of Minnesota Press, 2000), 165. Often used as boardwalk entertainments, these VR rides gather groups for an experience which is both live and mediated and involves them in their own entertainment. Once on bleachers, they are briefed by a guide who is both actor and ride-worker, and when the group has put on their VR headsets, the "live" "actors" stand in front of nearby bluescreen (in the same general outdoor area around the covered bleacher unit) and in real time they act out a script such as a wild-west stage coach ride for the audience. The audience on bleachers wearing VR goggles becomes the source of entertainment (and a draw) for other passers-by as they stomp their feet, lean, or lurch back in shock, even saying simple prompted lines such as "whoa" to a virtual horse or shot as they run from a virtual dinosaur. The fact that the audience participates to an extent shows the entertainment's link to gaming, yet audience are observing the mediated spectacle with a co-present actor and producing entertainment for others (a second audience) that they do not see, because of the live actor and the second gathered audience, these type of amusements have an air of the theatrical about them. However, the headsets impact the audience's ability to observe their natural surroundings (impeding a visual sense of co-presence). The total visual (and significant audio) stimulus of the sets, focus the wearer's attention on the action inside the unit upon which they depend for their sense of balance and movement, leaving them only slightly (peripherally) aware of the actions or even presence of their companions. One does not forget entirely that one is in a public space, assumes the presence of others (especially if participation includes physical gestures such as stomping, in which there is an auditory and physical sense of group behavior). But, by encasing the head, there is an immediate sense of isolation which ultimately separates participants and creates active viewers rather than an audience.

<sup>153</sup> In Coates' *20/20 Blake: The Visions of William Blake* (1997), he used goggles to fuse the live actors with projected images from Blake's drawings, and in *Wittgenstein on Mars* (1998), the protagonist was composited into the red Martian landscape.

performance place of living bodies of the actors, the stage. In Reaney's words, "Projecting the scenery in stereoscopic 3D and outfitting the audience with 3D glasses created the illusion that the virtual settings shared the stage with the actors. Doing so created a bridge between the two-dimensional, cinematic images of the scenery and the three-dimensional presence of the live performance."<sup>154</sup> Though the physical challenge of acting in front of flat screens is not completely resolved, the cumulative visual experience for the audience was nearly seamless.

In 1996, director Ronald A. Willis and designer/technologist Mark Reaney staged Arthur Kopit's *Wings* at the University of Kansas. In the production, Emily is a woman suffering from a stroke re-lives fragmented moments from her past. Memories of other people, times, and places are layered on top of each other as a collage of her personality.<sup>155</sup> The actress's physical body on stage shares the visual field of audience members with multiple layers of images, video, and other projected layers of visual data (her earlier days of aviation are depicted in the projection of a biplane, etc.). This mixing was accomplished by the use of advanced HMD headsets which allowed some images to be projected directly into the viewer's headset rather than the screen. The audience can then determine the composition of the total "stage picture" by moving their heads and shifting their focus between the device-projected layers and those elements occurring on stage.

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<sup>154</sup> Mark Reaney, "A *Midsummer Night's Dream*," <http://www.ku.edu/~mreaney/midsummer/> (accessed May, 2006).

<sup>155</sup> "... the performance text of *Wings* consisted of a series of montage and layering effects. These overlapping and intermingling realities interacted as Emily struggled to bring 'con- sensual reality' back into focus by separating and re-compartmentalizing hallucinations, memories, and momentary glimpses of her actual surroundings." Lance Gharavi, "i.e. VR: Experiments in New Media and Performance," in *Theatre in Cyberspace: Issues of Teaching, Acting, and Directing*, edited by Stephen A. Schrum, 249-271 (New York: Peter Lang Publishing, 1999), 266.

The importance of this piece is that it attempts to take one inside the mind of a person with a degenerative mental condition. In this way, one experiences the play from inside the body of its subject.<sup>156</sup> According to Lance Gharavi, Virtual Theatre scholar and video director for *Wings*, the show presented the audience a series of “realities” which overlapped and were superimposed on one another,

“each vying for attention in the crowded mise en scene. The audience, by choosing to focus from moment to moment on one ‘reality’ before shifting their focus to another and then another, themselves experienced a sensorial state analogous to Emily’s mental state wherein numerous disparate realities struggled for centrality...

By simply moving their heads, the audience could change the spatial relationship between the live actors and the images displayed on the HMD screens. The audience was thus constantly engaged in actively composing the visual relationships of elements in each scene and generating their own individual performance texts.<sup>157</sup>

The production may have brought the audience into the mind of the character and allowing them to see her reality and perception of place, however, by using goggles or HMDs the interface can transform the audience from a co-present group of audience members into isolated viewer/participants shaping unique experiences. The production team felt that the interactivity was the most positive aspect of using the HMD technology, but they also admitted that there was a communally limiting effect from the devices. Described as the “rather intrusive and cumbersome nature of the equipment on an

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<sup>156</sup> “The character of Emily was discovered sitting on a chair in the down stage playing space, reading a book. The ticking clock skipped a beat, the reading light behind the scrim suddenly disappeared, Emily seemed to be in some distress and then calamity followed. The stage plunged into darkness and the HMDs and projectors began showing fractured scenes of Emily’s house, cars, hospitals, ambulances, flashes of color, abstract objects, remembered places and strange faces. At that moment, the audience was launched into Emily’s role, experiencing disorientation as she did. With her, they waited through the suspense and confusion.” Mark Reaney, “Virtual Reality Sprouts Wings,” *TD&T* 34 no. 2 (Spring, 1998), 27-32, 31.

<sup>157</sup> Gharavi, “i.e. VR: Experiments in New Media and Performance,” 270.

audience member and a certain reduction of the ‘community feeling’ of attending a live theatre event, an inevitable side effect of the immersive qualities of the HMDs.”<sup>158</sup>

*Wings* and similarly produced shows also raise questions about the presence of an interface or barrier between the observer and the actor. Do the headsets constitute a break between the space encompassing the actor and that of the audience? Is the audience still aware of the presence of each other given the blinder-like (periphery limiting) effect of the headsets?<sup>159</sup> Are we not now treading a fine line between a communal audience experience and the experience of an isolated individual at home watching television or a webcast of some kind? This type of mediated production raises some valid questions which cannot be definitively answered. The problem, as I see it, is the interface between the audience (now viewer) and the live, co-present actor.

Once the frame of the TV or computer monitor or other solid structure is in place as a divisor between audience and action, and is enforced through its ‘glass’ viewing interface; the experience becomes highly mediated, not fully co-present or seemingly “live.”<sup>160</sup> David-Michael Allen writes:

Head-mounted displays provide a sense of immersion more complete than film, television, or theatre. As Nicholas Negroponte, author of *Being*

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<sup>158</sup> Gharavi, “i.e. VR: Experiments in New Media and Performance,” 271.

<sup>159</sup> “The relatively narrow field of view afforded by the Virtual i-O headsets also allowed the audience to move their heads to look under or around the tiny display screens and view the actors without looking through technologically mediated images.” Gharavi, “i.e. VR: Experiments in New Media and Performance,” 270.

<sup>160</sup> While Auslander’s assertion that interfaces or levels of technology are always present in today’s live performances (microphones, monitors at concerts, etc), I believe that there is a distinct experiential difference between any event which is framed by a single delivery device or interface, and co-present theatre. While occurring in real time, the experience of watching a relayed or broadcasted event does not share either the immediate sensory and emotional experience or the cultural currency of attending a ‘live’ show. Even the use of a proscenium (with scrim) allows for the passage of air, sound, smell, and potentially heat or touch from between the elements of the total theatrical event, including the house. The perceived connection of space in one place is an essential part of the theatre experience.

*Digital* observes: ‘The idea behind VR is to deliver a sense of ‘being there’ by giving at least the eye what it would have received if it were there and, more important, to have that image change instantly as you change your point of view’...The audiences or this VR theatre event then were denied one of the most basic aspects of virtual reality—the choice to look around at the environment.<sup>161</sup>

It is likely that the use of headsets alters the fundamental experience of the audience and their ability to feel a part of a larger audience (or temporary community) involved with a co-present production in process.<sup>162</sup>

Virtual reality presents challenges to the parameters of theatre. With heightened interactivity which causes audiences to be replaced by participants, does theater end where true virtual reality begins? Does the community of audience subsume under the rush toward participation?<sup>163</sup> Until further studies are conducted, it is too soon to say how close we may get to performing on our own holodecks, but for now theatre and immersive Virtual Reality are still somewhat separate and working on coming

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<sup>161</sup> David-Michael Allen, “The Nature of Spectatorial Distance in VR Theatre,” in *Theatre in Cyberspace: Issues of Teaching, Acting, and Directing*, edited by Stephen A. Schrum, 239-248 (New York: Peter Lang Publishing, 1999), 247.

<sup>162</sup> “Although audiences were generally pleased with the HMDs, most performances saw one or two members of the audience remove them for some period. When asked, the reasons varied. A few found the HMD uncomfortable, possibly due to incorrect adjustment. Others found the experience too intense and wanted a respite. And some were curious to see how the production appeared without the HMD’s mediation...People were fascinated by the experience. They seemed particularly enthralled with their ability to visually compose the scene by moving their heads and thereby the images in the HMDs...In post-performance talkback sessions they confirmed how much they enjoyed being able to ‘play director.’” Mark Reaney, “Virtual Reality Sprouts Wings,” *TD&T* 34 no. 2 (Spring, 1998), 27-32, 31-32.

<sup>163</sup> “Are we willing to let audiences get so close to the theatre event that they are able to change the ending of *Hamlet*? Whisper to characters information they shouldn’t discover until later in the play? Or...who knows what else? Where does collaboration end and destruction begin? Schechner, again, offers an answer: ‘Participation is not about ‘doing a play’ but undoing it, transforming an aesthetic event into a social event...But when the distance between audience and event is eliminated to the point that observer and observed are indistinguishable theatre will be undone...’ Allen, “The Nature of Spectatorial Distance in VR Theatre,” 247.

together.<sup>164</sup> With some participation (or audience interactivity), audiences become members of the creative community; with too much participation, everyone is a participant, and therefore, there is no audience or its sense of temporary community.

## **Conclusion**

It is remarkable that with Virtual Reality performance, we have come full circle. This investigation into Digital Theatre began with the actor expanded (empowered by their use of digital technology or seen in contrast with their digital other), now we end with the possibility of the audience given so much agency that they may be replacing the actor. Computer aided interactivity allows audiences to join the creative process, and through participation, join the creative community of theatre artists, creating the theatre they watch. In Digital Theatre productions *Living Newspaper*, *Crazy Wisdom Show*, *M@ggie's Love Bytes*, we saw audiences acting as playwrights, commentators, and sceneographers. In online performative communities like ArtGrid, the line between audience and performer is blurred and audiences are multiplied as points of view shift to include a myriad of possibilities. Virtual Reality seems to swallow up any possibility of the audience as an observer. The expected separation between spectacle and audience is dissipating rapidly.<sup>165</sup> It seems as though the concept of theatre will collapse under this great explosion of mediated participation, and heteroglossia and multiplication of the

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<sup>164</sup> Allen notes that Digital Theatre productions using headsets only allow for limited choice and therefore are not very challenging to the theatre paradigm. "*Adding Machine* audiences sat in the seats, wore the 3-D glasses, and watched. They were the passive observers, participants who had only indirect control over the progress of the event..." Allen, "The Nature of Spectatorial Distance in VR Theatre," 247.

<sup>165</sup> Susan Bennett notes that "spectacle implies a distinction between the roles of performers and audience. Performers are set apart and asked to respond cognitively and emotionally in predefined categories of approval, disapproval, arousal or passivity. Audience interaction with the performance may enhance it, but it is not meant nor allowed to become part of its definition." Quoted in Bennett, *Theatre Audiences*, 93.

vectors of conversation. This carnivalesque atmosphere of mixing ideas and roles is a wonderful occurrence, as long as it allows for a sense of temporary or shared community, so that we may see and know each other and ourselves through the creative process of theatre.<sup>166</sup>

Pearson and Shanks once wrote of the importance of the theater building on shaping the relationship:

Since the classical Greek period, theatre has been regarded as an institution in which a society reaffirms and articulates its common identity, turning its history into a story for the audience to include in its common memory. This representation is achieved spatially, and arrangement of performance and spectators is the result of and medium for concrete social practices. This is a place where a community is supplied with a socially acceptable and valid representation of its world, a spatial machinery of identity. The evolution of theatrical space has witnessed its gradual division into two distinct places built around the principle of separating the 'see' from the 'being seen,' stage and auditorium, limiting perception to the stage alone and the increasing formalisation of this fundamental structure.<sup>167</sup>

Therefore, they state, the basic paradigmatic design for theatre became a box-shaped stage and a raked auditorium where the separation between the auditorium and the stage is stressed by a lit stage and a dark auditorium. And the existence of the stage allowed for a creation of restricted places such as the off-stage areas, and the development of

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<sup>166</sup> Note that this is not the first time when the lines dividing the roles of actors and audience have mixed through the influence of technology. Ken Hillis writes: "For purposes of the present discussion, Frances Barker's (1984) study of the effects of the Restoration on the social and political imaginary of 1660s England offers a useful corrective in considering the implications of Bakhtin's theory. During the Restoration, the subject largely abandoned the performance of its subjectivity in public. Instead, it came to terms with performing 'itself' in text made possible by print technology. The silent watching of theatre as spectacle exemplified this withdrawal of the subject from an earlier more 'carnavalesque' performance in which the line between actors and audience had been socially and spatially demarcated less clearly." Ken Hillis, "Human.Language.Machine," in *Places Through the Body*, edited by Heidi J. Nast, and Steve Pile, 52-71 (London and New York: Routledge, 1998.), 57; "I-for-myself," "I-for-another" and "another-for-me." Mikhail Bakhtin, *Speech Genres and Other Late Essays*, edited by Caryl Emerson and Michael Holquist, translated by Vern W. McGee (Austin: University of Texas Press, 1986), 146.

<sup>167</sup> Mike Pearson, and Michael Shanks, *Theatre/Archaeology* (London: Routledge, 2001), 108.



scenic effects and machinery hidden from the audience. In the nineteenth century, theatrical space became increasingly fixed and theatre served as a verbal depiction of psychological spaces and inner worlds.<sup>168</sup> Pearson and Shanks conclude:

So modern auditoria are sociofugal, throwing spectators apart, limiting their eye contact, discouraging social interaction with implications for the practice, function and meaning of theatre. Space becomes a static object whose structure is regarded as unchanging, representation as fixed, imagination as given, criticisms controllable. The role of the spectator in signification is denied.<sup>169</sup>

This all brings us back to the question of what theatre is in the age of digital technology. My answer: whatever we will it to be. What do we want our theatre to look like? What will be our Total Theatre?

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<sup>168</sup> Pearson, and Shanks, *Theatre/Archaeology*, 108.

<sup>169</sup> Pearson, and Shanks, *Theatre/Archaeology*, 108.

## Chapter 9: Conclusion

I have mentioned that today's Total Theatre, a new performance space equipped to combine the technologies of today (including animated scenery, motion-sensing/capture, midi-triggering, video and projection, teleconferencing etc.) has yet to be built. However, things are beginning to change, as digital performance and Digital Theatre become more main-stream, new architectures rise to meet the needs of the performers and performances I've discussed.

On April 7, 2007, I attended an exhibition at the National Building Museum in Washington DC called *Reinventing the Globe: A Shakespearean Theater for the 21<sup>st</sup> Century*.<sup>1</sup> I was struck by the integration of elements for creating Digital Theatre in at least four<sup>2</sup> designs envisioning the Globe. The significance of this is two-fold. Firstly these theatres, when they are built, will help us define how we see the body of the performer, transform illusionary and performance places, and create the audiences which will form theatre's temporary communities. And secondly, these projects join the traditions of the past with the technology of the future.

I'd like to briefly respond to three of the designs displayed including plans for a traveling caravan, a festival venue, and a telematic theatre. The "Globe Trotter, A Portable Shakespeare Theatre for the 21<sup>st</sup> Century" by Office of Mobile Design, resembles a mars rover when "deployed" from its truck trailer "on any relatively flat

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<sup>1</sup> Martin Moeller, curator, *Reinventing the Globe: A Shakespearean Theater for the 21st Century*, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007.

<sup>2</sup> The fourth work will not be discussed in any detail as it proposes graphing actor's movements in space with motion-capture technology, had this idea been translated into creating visual depictions for Virtual Reality performance venues, it would be of significant interest.

surface.”<sup>3</sup> The unit is designed to both house a traveling troupe and act as complete mobile theatre unit (with box-office, stage/backstage, electric LED advertising, lights/sound, and photovoltaic power source). In addition to wings for scenic projection (and acoustics),<sup>4</sup> it feature web-casting equipment. Despite the humorous looking inflatable pod rooms, the design realizes the portability which digital (and Digital Theatre) technology provides. Like Studio Z’s updating of Comedia Improv through portable scenery,<sup>5</sup> this project re-invasions the tradition of 17<sup>th</sup> traveling Shakespeare troupes with current technology, bringing theatre to diverse communities.<sup>6</sup>

The next design I’d like to discuss, “Transparent Theatre: Alchemy and Transformation” by the Rockwell Group, re-imagines the Globe as an outdoor structure constructed out of scaffolding and screens which surround the audience/participants in spectacle and envisions digital performance in terms of a festival environment. The design statement reads, “In re-imagining the Globe, Rockwell Group proposes a space that celebrates the ephemeral experience of live theatre by breaking down the formality

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<sup>3</sup> Office of Mobile Design, “Globe Trotter, A Portable Shakespeare Theatre for the 21st Century,” Reinventing the Globe: A Shakespearean Theater for the 21st Century, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007. “Reviving the tradition of 17<sup>th</sup> century traveling Shakespeare troupes OMD - working in conjunction with Shakespeare Festival LA – has designed a mobile, modular, vehicle able to transform into a fully equipped theatre on any relatively flat site.” Project team: Jennifer Siegal, Principal; Mark Stankerd, Project Architect; Matthew Fellows, Design Associate; and Erica Hernandez, Research.

<sup>4</sup> The wings are projection screens. “Wing walls unfold from the side to enliven acoustics, provide scenery surfaces and filmed actor-close ups, and support lighting.” Office of Mobile Design, “Globe Trotter, A Portable Shakespeare Theatre for the 21st Century,” Reinventing the Globe: A Shakespearean Theater for the 21st Century, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007.

<sup>5</sup> Unlike Studio Z, this unit is self-sufficient and can be taken outside.

<sup>6</sup> “...a carnival-like atmosphere and entertain a wide variety of changing audiences.” Office of Mobile Design, “Globe Trotter, A Portable Shakespeare Theatre for the 21st Century,” Reinventing the Globe: A Shakespearean Theater for the 21st Century, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007

of a structured theatrical environment, opening it up to the sky and the surrounding landscape. It immerses the audience in the experience allowing spectators to become active influencers and the theatre itself to become a performer.”<sup>7</sup> Participation of the crowd is encouraged and interwoven into the design of the structure and its use.<sup>8</sup> The language used to describe audience behavior and the model design suggests that the venue is intended for rock concerts or other festival events, but not specifically for the creation of theatre.<sup>9</sup> The design which surrounds the audience in the spectacle does not indicate significant audience focus or provide for the creation of illusionary place.<sup>10</sup> (This is because the projections spillover onto them and with the spectator is immersed in projections illusionary place cannot be divorced from the shapes of those watching.) The place of performance is performing itself.<sup>11</sup> It is clearly designed for highly participatory performance.

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<sup>7</sup> The Rockwell Group, “Transparent Theater: Alchemy and Transformation,” *Reinventing the Globe: A Shakespearean Theater for the 21st Century*, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007.

<sup>8</sup> “The ‘pit’ becomes the prime location; theatre goers can climb the tiers to see or be seen...spectators can flow freely into the ‘moshpit’ stage area. The audience can also migrated to the exterior balcony and watch the overall festival, where many smaller fringe stages create a whole new level of interactive spectacle.” The Rockwell Group, “Transparent Theater: Alchemy and Transformation,” *Reinventing the Globe: A Shakespearean Theater for the 21st Century*, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007.

<sup>9</sup> The structure may have been designed with Burning Man in mind, where audiences are participants and performers in the total spectacle.

<sup>10</sup> Although one main screen is provided where the Globe tiring house would stand, additional screens surround and compose the framework. An inner and outer set of screens encircle the audience, with a set of five staggered pivoting screens behind the audience, and two on either side of their seats, along each section of the circle. The total impression is of a Roman amphitheatre made of screens, projections and light; it gives the sense of being a building meant to be viewed from the outside. The animation of the model shows the structure lit up with spot-lights swirling spotlights like a rock concert, and near-by screens demonstrate that the spectator mixes with the projections.

<sup>11</sup> The “theatre itself to become a performer.” The Rockwell Group, “Transparent Theater: Alchemy and Transformation,” *Reinventing the Globe: A Shakespearean Theater for the 21st Century*, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007. Perhaps it

The final piece by John Coyne, is a theatre constructed around multi-site performance. Coyne designed a theatre space which would link three similar sets in “different locations around the world” via Internet2 videoconferencing.<sup>12</sup> Major characters would act from each of the three sites, two of which would broadcast via live-streaming technologies into large screens in the relative ‘local’ venue(s). It is unclear from Coyne’s sketches or description how aesthetic decisions about splitting a cast between sites might be made, or how the large scale projections or visual sightlines obstructed by scrims might effect the productions. However his use of digital technology to introduce challenging new ideas into productions is quite effective.<sup>13</sup> Coyne also shows an interest in audience participation and the growing nature of community in a global world, by inserting monitors into the audience which allow for broadcast of performers and for across-site or multi-local audience interaction.<sup>14</sup> Coyne writes: “Electronic technology allows us to communicate like never before. What if we were to use that technology in theatre, expand upon it, and dramatize it? Could theatre in the

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may become too much of a character in the show. The spectacle of self, and festival performance indicates a cumulative spectacle of environment, participants, and any staged action.

<sup>12</sup> John Coyne, “A New Global Theatre,” *Reinventing the Globe: A Shakespearean Theater for the 21st Century*, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007.

<sup>13</sup> He uses the idea of staging *Macbeth* to illustrate his plans to utilize a three sided theatre shape fitted with screens for remote viewing of distant actors.

<sup>14</sup> “Through an integrated display of monitors, audiences of different cultures would see each other’s reactions to the same performance and perhaps communicated among themselves.” John Coyne, “A New Global Theatre,” *Reinventing the Globe: A Shakespearean Theater for the 21st Century*, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007. It is likely that this type of audience to audience interaction would be distracting if available during the dramatic action.

round imply not just a physical shape, but a production exploiting the full range of possibilities afforded by modern communications?”<sup>15</sup>

While none of these is truly a Total Theatre, these are three very different and compelling conceptualizations of the digitally enabled theatres for our near future, each expressing unique ideas of the place of performance and illusion, the importance and scale of the actor’s body, and the level of participation in the audience. In addition to their individual value, cumulatively the exhibit represents a relevant shift in thought. Instead of anchoring new forms of Digital Theatre in the historical context of theatre’s past traditions of utilizing new technologies as I have done, now it is the past which comes to today’s technology for inspiration. Throughout this work, I have used theatrical precursors to anchor Digital Theatre within the continuing tradition of theatre. Now accepted forms are re-envisioning past models with the use of digital technology.

As venerated theatre traditions such as Shakespeare’s Globe and Coventry’s Miracle Plays as well as the Olympics begin to reach out to digital technologies, they are re-imagined for current audiences. In the 2006 Coventry Mystery Plays (a community revival of an ancient tradition featuring choruses of local citizens, puppets, and an updated place specific script) great use was made of digital projection.<sup>16</sup> The Mystery

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<sup>15</sup> John Coyne, “A New Global Theatre,” *Reinventing the Globe: A Shakespearean Theater for the 21st Century*, exhibition at the National Building Museum, Washington, DC, January 13-August 27, 2007.

<sup>16</sup> On July 25, 2006, I attended the Coventry Mystery Plays at the Belgrade Theatre in Coventry, England, which date back to the 12<sup>th</sup> Century (with the creation and migration of the festival of Corpus Christi in 1311 to a summer week-long fair). According to the Program Notes the “last complete cycle was performed in 1579, 1962 marks the first performance of the Mystery Plays since the bombing of the cathedral in WWII.” Community and tradition are invoked by statements in the program, such as “for the people, by the people,” made in reference to the company’s composition and the message of the performance and intended audience. Because they were telling a (post)modern version of the stories, it seems only fitting that they included the digital media with which today’s society is so accustomed. In one case, the resurrection of the dead child, a real-time camera feed shot a close up on the girl and Jesus as the mother looked on and cried. This gave a play-by-play sports or live news close-up to the event, mediatizing it and putting it in context of what we see today as breaking news or important public

Cycle, which continues to be staged in Coventry's war-ravaged cathedral, utilized digital real-time video effects to project close-ups of action and to create a sense of the place being animated with the past. One particularly moving and effective use of digital technology was the overlay of a real-time feed of the actor playing Jesus' face projecting onto a mammoth stone face in the cathedral's shell, connecting layers of ancient, current, and belief-based place or reality. Likewise, the Olympics have begun to use digital performance techniques to great effect. The Opening Ceremonies of the 2004 Summer Olympics in Athens featured digital performance including a telematic duet between a drummer on site in Athens and one at the sacred site of Delphi miles away, giving both the gathered crowd and the international broadcast audience a sense of expanded or linked place via technology.<sup>17</sup>

In essence, whereas (in this work) Digital Theatre has been looking to the past to substantiate the evolving theatre forms of the future, now past traditions are being re-envisioned through Digital Theatre technology. Everything old is new again, everything new is old again; evidencing that theatre is an ever-evolving evocative form of human communication utilizing the body and the tools available.

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(televised) events. The use of real-time projection on to the walls of the cathedral of Jesus, face when dead/risen and talking to his disciple was brilliant. By projecting the actor's face over a large stone monolithic sculpture of a man—face on top of stone face (although I do not know if this was a genuine statue or a set piece)—gave the sense the mediated divine presence of the Jesus character was speaking through the past into the present. This was perhaps one of the most effective uses of live digital projection to invoke a sense of connection between bodies/ideas of the past and the present moment and place. It seemed as though the idea of the Christ (perhaps depicted in stone) was given new life and meaning through it's moving, live animation.

<sup>17</sup> Dimitris Papaioannou, director, 2004 Summer Olympics Opening Ceremony, Athens, Greece, August 13, 2004. In April, 2007, at Artists as Creative Catalysts, I talked briefly with Laurie Anderson who consulted on the staging of the Athens Olympics. She indicated that her suggestion to the staging committee was that technology should be used to say something rather than just showing it off, to which I agreed.

In this work I have described a variety of performances utilizing digital technology in terms of the way that they expand notions of body, place and community. But I have also made connections between these new works and the ideas of past theatre artists including Craig's Über-Marionette, Futurist "actor-gases," Bauhaus experiments with space and the plans for the Total Theatre, the spectacle of transforming place in Italianate scenery, and the projectionist theatre of Piscator and Svoboda. For, "Without this glance backwards, a vision of the world of today would be unthinkable," to lend weight to Digital Theatre by grounding it in the continued tradition of utilizing new technologies.<sup>18</sup>

You will recall that in the first chapters the body of the performer was looked at first in contrast with his digital other (video, animated, or metal), then in terms of increased agency as their bodies extended their reach into and control over their performance space, lastly I discussed the neo-Bakhtinian unbound body which reaches beyond the bounds of public and private and becomes a playing space itself. Through the simultaneously "live" and mediated nature of Digital Theatre, the performer's rebellious body onstage engages in dialogue with its image-body, contesting the societal dominance of the image over the real. The human body is introduced to animated, AI, and robotic bodies which stir genuine emotion in audience, prompting us to reexamine our similarities and differences with our creations and re-evaluate live as the soul "which can move itself."<sup>19</sup> Through the concurrent difference and similarity, we glimpse our own

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<sup>18</sup> Klaus Bartels, "The Box of Digital Images: The World as Computer Theater," *Diogenes* 163, 45-70 (Fall, 1993): 46.

<sup>19</sup> Including but not limited to Perkowitz, *Digital People*, 53, and Robert S. Brumbaugh, *Ancient Greek Gadgets and Machines* (Westport, Connecticut: Greenwood Press, 1966), 113.



nature, potentials, and limitations. We both acknowledge and span the gap between the world of these modern Über-Marionettes, and the human actor with screen-play and projectionist costuming which can layer multiple characters onto one actor. Our bodies overlap, reach into space, extending influence on media, singing or dancing the images out. We even let our bodies become the puppets of others, with the boundaries between internal and external, public and private, individual and universal transgressed through the internet stimulation of muscles.

Next I discussed place in terms of illusionary place created through digital media and performance places enhanced, even made active through the addition of digital technology. I examined theatre's continued interest in illusionary place and its transformation and motion on stage in terms of digital projections. Like early depictions of the New World onstage through Italianate scenery, cyberspace is materialized on stage for us to explore. The visual beauty of animated scenery demonstrated by Reaney's rotating moon and blushing landscapes, are lush and filled with movement, occasionally seeming alive. The scenery itself becomes another actor (the actor's other). Performance places become portable, flexible, linked, playful spaces, but also transform existing sites into environments where real and illusionary places overlap. These mixing and mutations of real and imagined place provoke the question: if intelligent spaces were truly intelligent (or given its nature as a whole responsive data system) then couldn't it be said that we would be performing inside its body?

In the last two chapters I discussed communities; the performance community of actors in cyberplace, and audiences becoming members of creative communities through their online participation in Digital Theatre productions via interactive interfaces.

Cyberplace, you may recall is the term used to describe a feeling or perception of cumulative place in telematic and especially multi-site performances. In these meeting-points between distanced collaborators with similar interests in the cyber-environment, a sense of place and of community are formed. In online performance/performative communities deep play, a sense of *communitas* form around collaborative performance creating utopia through process. Through digital technologies, places, bodies, and art forms are layered and composited. At the same time, multiple places linked together can seem like a theatrical portal connecting different geographical environments and people. Performers and audiences from multiple locations interact lending a sense of perceived proximity to interactions. Audiences are multiplied and the roles of audience and performer/creative source are mixed through online participation including text, visual, audio and performative input. The reach of the internet beyond public and private locations complicates our expectations of audience location and behavior, and the limits of participation and reception are tested in the interaction between Virtual Reality environments and theatre.

Given the extensive overview of types of digital performance, I believe that I have demonstrated that Digital Theatre is a hybrid art form of great potential, gaining strength from theatre's ability to facilitate imagination and create human connections, and digital technology's ability extend the reach of communication and visualization. I have shown that the dual presence of the "live" actor and mediated digital elements creates performance events which allow us to better understand, respond to, and shape our changing world, both on stage and beyond the theatre building. It can be surmised from this examination of Digital Theatre that because "technology defines our being-in-the-

world and the way in which we exist alongside other beings,”<sup>20</sup> live performance can benefit from the inclusion of digital technology.

Digital technology helps us create theatre appropriate for our interpretation of our time. Digital Theatre (or digitally enabled theatre), exemplified by the performances discussed in this work, allows us to unpack our assumptions about body, place, and community and reexamine who we are, where we are, and our relationship to others in a global world. The combination of human and digital communications formats allows us to better try to understand what it means to inhabit our world and flesh out these ideas on stage.

Throughout my research in Digital Theatre, from my years online investigating the resources of the Digital Performance Archive, and throughout my readings, interviews, and audience experiences, I have repeatedly found that praxis lies at the heart of understanding this evolving art-form.<sup>21</sup> Although it can be said that some learn better from doing, it is also equally important to acknowledge that the hands-on training I received both on campus, through AG performances, and through workshops like SDAT at ASU and Troika Ranch prepared me to more fully appreciate the complexities and nuances of digital performance and understand the difficulty and value the techniques demonstrated by the artist/performer/technologists in this work. In her article

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<sup>20</sup> Ellen Mortensen, *Touching Thought: Ontology and Sexual Difference* (Lanham: Lexington Books, 2002), 101.

<sup>21</sup> “As DMP is often captured digitally in its entirety, DMP is often archived online, thereby existing in contradiction to Phelan’s desire to keep performance independent from mass mediation and recording. Materially, the DMP archived is not wholly different from the ‘original’ DMP—especially if the DMP had no live audience to begin with other than the performers and producers on-site during its creation.” Marcyrose Chvasta, “Remembering Praxis: Performance in the Digital Age,” *Text and Performance Quarterly* 25, no. 2 (April 2005): 164.

“Remembering Praxis: Performance in the Digital Age,” Marcyrose Chavata reminds us of the value of performing our scholarship. She writes:

Ultimately, this essay serves as a reminder to myself and others to remember and perform the kind of work that we do. As performance studies scholars, we engage in praxis: the theoretically informed practice that yields further practice and theory—our own kind of grounded theory designed to share with others what we have come to know through our *doing*.<sup>22</sup>

Alternative forms of research are also essential, including the objects of study (the performances), their transmission and archiving (often in the form of websites), and my analysis and creation of new objects of study (including performances and this dissertation) are essential to this project. Each of these is, at some point, digital. Given the subject of Digital Theatre, it is especially fitting that a segment of my dissertation be in a digital format. In her reflections on documenting the multi-site performance *Cosine* (which resembles *InterPlay* in its description of mixing multiple video streams of interdisciplinary performance), Heather Raikes writes that the pluralistic form raises questions about:

appropriate forms for documentation. The written word is a linear, consecutive, hierarchical medium that meets structural limitation when confronted with the depiction of an interdisciplinary multimedia mosaic. To document a nonlinear expression in linear form is to flatten its dimensionality, and, to refer to modern physics, to collapse the dynamic potential of the wave into the definitive experience of the particle.<sup>23</sup>

The same can be said of many forms of Digital Theatre which might be best documented in digital format.

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<sup>22</sup> Chvasta, “Remembering Praxis,” 157.

<sup>23</sup> Heather Raikes, “Fluid Architectures and Sample Spaces: Reflections on a New Media/Architecture Performance,” *Body Space and Technology* 3, no. 1 (2002), <http://people.brunel.ac.uk/bst/documents/heatherraikes.doc>, (no pagination).

Readers will find a CD with a website featuring text, video, and images describing the production of *Elements*. This original work, which I coordinated, was staged in the Dance Department at the University of Maryland by an interdisciplinary group of staff, faculty, and graduate students called the Digital Performance Group. We worked collaboratively and devised a piece of Digital Theatre and performance which reflected a collective work fed by our individual skills and aesthetics.

Through the CD, the process and product may be viewed. The *Elements* project is evidence of a collaborative model and of my assimilation of many of the ideas in this paper. Reactive scenery or synthesis and projectionist costuming (seen in *The Magic Flute* and GSRT respectively) were employed in the first scene, Air. In the second scene, Earth, a collaboratively scripted work was telematically performed via the Access Grid with ArtGrid community members, in front of animated scenery (demonstrating digital illusionary place and expanded place of performance). MIDI tap tiles and motion sensing were utilized in the Fire scene. The last scene, Water, featured a dancer performing with her digital other as the real-time video silhouette of her body was filled with water imagery (as she danced with her form as the illusionary place). Perhaps the primary achievement of the project was that we temporarily converted the Dance Theatre into an active space (like ASU's intelligent space) for digital play and collaboration. Ollivier Dyens states:

One may also conceive of the performing body as extended by a musical instrument; this is seen as a kind of transferring of the body onto the instrument, with which one communicates to the world: a voicing of one's body; a body drawn out of itself. In this light, performance is seen as a transfer of information from one's body to the instrument, from the body to the world, or from the body to another body. In any case, the formula "from-to" prevails...evolution is oriented toward placing-outside ourselves, and we often see this reflected in a rather centrifugal

perspective of performance as an activity of reaching out from our body via hand and tool to the world. Performance is always wished to be a giving from us to the Other. We may ask when is it that we reach this point, the point at which we touch the Other, or differently put, in order to touch the world, which part of us is doing the touching, the body, the hand, the instrument?<sup>24</sup>

Today many performers are reaching out through digitally enabled bodies. Digital Theatre and performance which involves both the communal connection between “live” co-present audience and performers, but also utilizes the flexibility and reach of the digital tools and techniques available to us. Through Digital Theater we can better create theatre which relates to the world around us and imagines the theatre of tomorrow.<sup>25</sup>

Theatre is a medium of questioning, hope, and insight.<sup>26</sup> Digital technology is the transformation and flow of information. Their synthesis creates a powerful tool for communication both locally and globally. In its widest reach, Digital Theatre is a performance method which can be used as a tool to reassess the direction of globalism, challenging dominant models of mass culture and reinvesting value in individuals while reevaluating their relationship to the ecology and larger human community.<sup>27</sup> Digital

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<sup>24</sup> Ollivier Dyens, quoted in Franziska Schroeder, “The Touching of the Touch – Performance as Itching and Scratching a Quasi-Incestuous Object,” *Ectensions: The Online Journal of Embodied Technology* 2 (2005): 6.

<sup>25</sup> “Technologies give access to different, multiple, and unknown levels of reality, and by its mere presence, this access alters the encoding of our world.” Ollivier Dyens, *Metal and Flesh: The Evolution of Man: Technology Takes Over*, Translated by Evan J. Bibbee and Ollivier Dyens (Cambridge and London: The MIT Press, 2001), 35.

<sup>26</sup> “Audiences are compelled to gather with others, to see people perform live, hoping, perhaps, for moments of transformation that might let them reconsider the world outside the theater, from its micro to its macro arrangements. Perhaps part of the desire to attend theater and performance is to reach for something better, for new ideas about how to be and how to be with each other to articulate a common, different future.” Jill Dolan, *Utopia in Performance: Finding Hope at the Theater* (Ann Arbor: University of Michigan Press, 2005), 36.

<sup>27</sup> Telematic performance can create a space of translation, and act as a mobile metaphor, creating momentary alignments within (societal) ambiguity via brief moments interconnectedness in performance. “The corporate world has colonized everywhere: from television to classrooms, painting themselves green, supporting women’s initiatives, universalizing the consumer, and commercializing youth. Multinational

Theatre is a “moving metaphor” which allows for the celebration of *différance* and the active recontextualization of elements which shape our world.<sup>28</sup> Digital Theatre is a hopeful act of creative intervention.

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corporations are involved in energy, biotechnology, agriculture, food-processing, manufacturing and retail, communications, transportation, media, health, and education...” Heather Eaton, and Lois Ann Lorentzen, eds. *Ecofeminism and Globalization: Exploring Culture, Context, and Religion* (Lanham: Rowman and Littlefield Publishers, Inc., 2003), 30-31; “Humanity is beginning to perceive the planet as a closed ecological and economic system for the first time. The sustainability of humanity, as opposed to a national society, is emerging as a major challenge.” Kennedy Graham, ed. *The Planetary Interest: A New Concept for the Global Age* (New Brunswick, New Jersey: Rutgers University Press, 1999), 12.

<sup>28</sup> “...the moving metaphor, a ambivalent space of shifting codes/meaning. It is that third space, though unrepresentable in itself, which constitutes the discursive conditions of enunciation that ensure that the meaning and symbols of culture have no primordial unity of fixity; that even the same signs can be appropriated, translated, rehistoricized and read anew...even beyond intracultural translation, this idea of a moving metaphor, of a third space implies a contingency in creation of meaning which allows for new interpretations of ‘truth’ It is the third space which ‘makes the structure of meaning and reference an ambivalent process, destroys this mirror of representation in which cultural knowledge is a customarily revealed as an integrated, open, expanding code.” Homi K. Bhabha, *The Location of Culture* (London: Routledge, 1994), 37; “It is in the emergence of the interstices—the overlap and displacement of domains of difference—that the intersubjective and collective experiences of *nationness*, community interest, or cultural value are negotiated.” Bhabha, *The Location of Culture*, 2.

# Appendices

## **Appendix A: The Projectionist Past**

The history of projection, film, and photography are closely intertwined and stemming from multiple advancements in optics over a wide span of time dating back to shadow play.<sup>1</sup> As technology develops, so it is adapted or utilized for amusement as well as scientific application. Leonardo da Vinci,<sup>2</sup> among others of his time, suggested the use of camera obscura for observation and entertainment.<sup>3</sup> When room-sized, these darkened spaces allowed light to pass through a hole, and would project an inverted image on the back wall, showing miniaturized settings, people doing daily tasks, and even events staged for viewers. The box-like room acts like a both a camera and a theatre; possessing a screen, auditorium, and projector. It is possible that as people created forms of presentation to create interesting scenes, this became an early example of projectionist theatre.

Magic Lanterns<sup>4</sup> were another form of projectionist entertainment using flame lamps with images painted on glass slides or made with stencils. Examples include ‘living lanterns’<sup>5</sup> using stencils cut in tin (like gobos) to project specters or creatures for entertainment in medieval times. Magic Lanterns were forms of popular entertainment in Europe as early as the 18<sup>th</sup> century, and showed a fascinated public the supernatural,

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<sup>1</sup> See Martin Quigley, Jr. *Magic Shadows: The Story of the Origin of Motion Pictures* (Washington, DC: Georgetown University Press, 1948), 163-176. An edited version of this list appears in Appendix A: Chronology of Magic Shadows.

<sup>2</sup> “The use of the camera obscura for viewing exterior objects, and not just for astronomical studies, appears to have been mentioned first in the writings of Leonardo da Vinci (1452—1519).” Laurent Mannoni, *The Great Art of Light and Shadow: Archaeology of the Cinema*, Translated and edited by Richard Crangle (Devon, UK: University of Exeter Press, 2000), 6.

<sup>3</sup> “1550 Girolamo Cardano, an Italian physician and mathematician, describes how the box camera obscura can be used for entertainment purposes.” Quigley, *Magic Shadows*, 165.

<sup>4</sup> “The principle of the magic lantern remained the same, with a few small variations, from the seventeenth century until the end of the nineteenth. It was an optical box made of wood, sheet metal, copper, or cardboard; it was cubic, spherical, or cylindrical in shape; and in a darkened room it projected images painted on a glass slide onto a white screen (fabric, a whitewashed wall, even white leather, in the eighteenth century).” Mannoni, *The Great Art of Light and Shadow*, 33.

<sup>5</sup> “The lanterne vive could only emit a coloured glow and did not allow true projection. A strip of translucent paper, on which were painted grotesque or devilish figures, was inserted into a cylinder of paper or decoratively pierced sheet metal. On top of the cylinder was placed a sort of propeller made of tin, which was free to rotate about an axis formed by an iron rod, and which secured the translucent drawing in place. A candle burned at the centre of the device. The heat given off by the candle caused the propeller to turn, rotating the painted strip so that the brightly coloured images travelled around the light at their centre.” Mannoni, *Great Art of Light and Shadow*, 28.



illusions of light, and re-creations of scenes from everyday life in miniature.<sup>6</sup> In addition to public viewings, traveling projectionists<sup>7</sup> came to homes peddling their entertainments. It is possible to imagine various interactions (shtick) the projectionist may have performed, interacting with his projected spectacles. This would have created a mediated/live experience just as earlier actors interacted in shadow play in some theatrical entertainments.<sup>8</sup> Eventually these forms appeared in the theatre as well.<sup>9</sup> These projectionist forms that pre-date photography (and therefore film) are reminiscent of shadow play and puppetry in the East and can be linked to current forms of digital puppetry involving projected, computer-animated characters.

Like our own recent digital revolution, there was a race of invention to create photography, the ability to shoot motion footage (via early movie camera devices), film, and projection all combining toward the common outcome of creating movies. The development of photography and cinema advanced rapidly through multiple efforts at creating moving images (most notably Edward Muybridge's efforts to document the natural motion<sup>10</sup> of race horses, then humans and other animal subjects), experiments with optical illusion of movement found in spinning disk inventions such as the zoetrope, Eastman's creation and patenting of film, and projection efforts by Edison and the Lumière brothers. Each of these efforts was essential in creating a moving shadow of human likeness, who would become our media other, the non-human filmic/video actor.<sup>11</sup>

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<sup>6</sup> "The magic lantern with its scenes painted on glass 'sliders'...Pepys recorded seeing one in 1666...souvenirs...London visit in 1710 was a 'Magick Lantern with Pictures'...wandering showmen carried small magic lanterns." Richard D. Altick, *The Shows of London* (Cambridge and London: The Belknap Press of Harvard University Press, 1978), 117.

<sup>7</sup> "They wandered the streets about...wailing for a window or door to open..citizen to wavel them in: Trala, deli, traderi, dere; la, la, la, traderi tradere! Curiosity for the asking! Show the beautiful Magic Lantern in your home, it will cost you no more than fifty-five sous...You will see the Good Lord, Master Sun and Madame Moon, the stars, the King, the Queen, the gendarme, the hangman, the morning, the afternoon, the evening, the Seven Deadly Sins, the Elements." Mannoni, *The Great Art of Light and Shadow*, 78.

<sup>8</sup> "David Garrick introduced moving shadows at the end of his...popular pantomime Harlequine's Invasion (1759)." (inspired by "Chinese shadows"). Altick, *The Shows of London*, 118.

<sup>9</sup> "The date of the first use of the Magic Lantern in the theatre is difficult to pin down; it is generally assumed to be 1827 in a production at the Adelphi Theatre in London of the Flying Dutchman in which the ghost ship was projected. However, there is also a view that Athanasius Kircher...used the device towards the end of the seventeenth century. In the middle of the eighteenth century devices such as Robert Smith's 'ocular harpsichord' and the 'Chase electric cyclorama' were popular and could have influenced Adolph Appia, who was popularly assumed to have introduced slide projection into the theatre." Graham Walne, *Projection for the Performing Arts* (Oxford: Focal Press, 1995), 9.

<sup>10</sup> Muybridge is credited with the creation of animated images, while Edison is credited (among others) for inventing cinema with his Kinetoscope. Steve Neale, *Cinema and Technology: Image, Sound, Colour* (London: BFI, 1985), 32.

<sup>11</sup> Even before cinema, images of actors appeared on stage through projectionist illusion. Other types of projection included ghost effects as in *Pepper's Ghost*, a famous effect in which the image of a well-lit actor below the stage was projected and bounced off reflective surfaces at an angle which made the

## **Appendix B: Piscator and Svoboda**

Svoboda transitioned from multiple diffuse visual elements to stacked layers of action.<sup>12</sup> In *The Last Ones*, people and their actions become the basis for the projectionist scenery. As in Piscator's use of historical footage, the projected bodies became informants to action and landscapes informing the world of the stage bodies. Parallels between bodies on stage and often the same actor's bodies on screen were joined in interesting ways, mirroring and commenting on each other, and became symbolic through their repetitions. In *The Last Ones*,

Certain moments created a symbolic parallel so graphic that no further speculation was required. At the same time Nadezdina's bare back was gently stroked by maids with birch twigs during a live scene, we projected a larger than life screened image of a prisoner's bare back being whipped while he was pinioned to a stone wall... We were setting up a confrontation of memory with the present, a confrontation between the spectator's experience at the moment of performance with his experiences in the past now awakened by the performance.<sup>13</sup>

This scene demonstrating the tension between the sensuality of the present and the physical pain of the past force an uncomfortable reckoning between cells and celluloid, between our faith in the observable present as it takes place in the now and the flat yet forceful recorded images of the past. In another instance the heroism of a shooting is put into question through the confrontation between stage action and filmic background.<sup>14</sup> In both cases the image body and the "live" body of the actor on stage is in direct visual dialogue with the image of the body, and through their co-existence are informing the viewer's sense of the total story and situation.

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vision appear next to the onstage actor. Jim Davis, "The Gospel of Rags: Melodrama at the Britannia, 1863-74," *New Theatre Quarterly* 7, no. 28 (November, 1991): 374.

<sup>12</sup> "...in *The Last Ones* we changed this to a depth principle in order to create a cumulative effect, to increase the impact rather than disperse it, to intensify. We stacked things people, scenes behind each other.. A clear spatial aesthetic is formed by the contrast of stage action, flat projection, and live orchestra behind the screen on which the images are projected." Jarka Burian, *The Scenography of Josef Svoboda*, (Middletown, Connecticut: Wesleyan University Press, 1971), 103.

<sup>13</sup> Josef Svoboda, *The Secret of Theatrical Space*, edited and translated by J.M. Burian, (New York: Applause Theatre Books, 1993), 66-67.

<sup>14</sup> "Between dances, Jakorevov strolls with Vera, describing his heroic shooting of Sokolov. His words are accompanied by a documentary-type film sequence of Jakorevov shooting Sokolov that absolutely contradicts his narrative." Josef Svoboda, *The Secret of Theatrical Space*, edited and translated by J.M. Burian, (New York: Applause Theatre Books, 1993), 67-70.

## Appendix C: Historical Background for Projectionist Costumes

Mechanized, angular, or puppet-like Futurist costumes served to bridge the mechanical or puppet-like ideal and the human form.<sup>15</sup> “Rather than being replaced by an *Übermarionette* or machine, the human aspects of the actor are hidden or deformed by costumes.”<sup>16</sup> Some costumes emulated recognizable machines (such as locomotives), others simplified the human form into an object or shape,<sup>17</sup> while others had performative qualities<sup>18</sup> which link them to today’s wearable computerized costumes which can similarly function as instruments.

Likewise, Bauhaus costuming turned the actor-dancers into puppet-like objects with simplified silhouettes.<sup>19</sup> Many of these simplified geometric shapes found in costumes of Schlemmer’s *Triadic Ballet*<sup>20</sup> where one can see ballerina figures with stiff exaggeratedly circular skirts, circular and conical head pieces, large smoothed building-block-like appendages with round ball gloves replacing hands, shapes adjusting the girth, form and texture of the torso or pelvis to resemble angular or geometric shapes. All these costume pieces reconstitute the body’s natural silhouette in a way that can be seen in the similarly angular silhouettes of GSRT’s *Making of Americans*.

For both the Futurists and the Bauhaus, the shape of the costumes effected the creation of character and movement.<sup>21</sup> Schlemmer’s *Triadic Ballet* consisted of only

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<sup>15</sup> “Several recent plays have used the actor-machine as an image.” Kirby, *Futurist Performance*, 96.

<sup>16</sup> Kirby, *Futurist Performance*, 114. “...Ivo Pannaggi, for example, designed two Cubistic, machine-like, deforming costumes that covered the entire figure.” Kirby, *Futurist Performance*, 97.

<sup>17</sup> “Theatre performances such as Balla’s *Printing Press (Macchina Tipografica)* (1914) depicted human personifications of machines, and mechanical ballets such as Franco Casavola’s *Machine of 3000 (Macchina del 3000)* (1924), designed by Depero, featured dancers in robotic, tubular metallic costumes.” Dixon, “Futurism E-Visited.”

<sup>18</sup> See Kirby, *Futurist Performance*, 117.

<sup>19</sup> “Schlemmer’s theatre was a kind of puppet show and relates to the theories of one of his favourite authors, Heinrich von Kleist, whose essay ‘Concerning the Marionette Theatre’ (1798) employs the lifeless, idealized figure controlled by strings as a metaphor for the perfect, innocent human being.” Frank Whitford, *Bauhaus*, London: Thames and Hudson, 1984, 86.

<sup>20</sup> “The most celebrated of Schlemmer’s productions was the: ‘Triadic Ballet’ which was first performed, not at the Bauhaus, but in the Stuttgart theatre in September 1922. It employed three figures, one female and two male, dressed in curious, puppet-like costumes. In an elaborately choreographed routine these figures explored various permutations of dancing together, in twos and threes against a series of backgrounds whose colours stressed the triple nature of the entire spectacle. The productions Schlemmer later staged at the Bauhaus developed from the ‘Triadic Ballet’... Whitford, *Bauhaus*, 86.

<sup>21</sup> “Pannaggi, costume for a ballet by M. Michailov, c. 1919. The costumes ‘deformed the entire figure bringing about machine-like movements.’” Goldberg, *Performance Art*, 25. Dance: “*Glass Dance* (1929), executed by Carla Groseb wearing a hooped skirt of glass rods, head covered in a glass globe and carrying glass spheres, equally restricted the dancer’s movements. Costumes ranged from down-filled soft figures to bodies covered in concentric hoops, and in each case the very constrictions of the elaborate attire totally transformed traditional dance movements.” Goldberg, *Performance Art*, 107.

three actors wearing multiple costumes which (in addition to “floor geometry” patterns for choreography/blocking) determined the type of movement for each scene. “The work had developed in a surprisingly pragmatic way: ‘First came the costume, the figurine. Then came the search for the music which would best fit them. Music and the figurine led to the dance.’”<sup>22</sup> Their process of creating stage movement from the shapes mirrors Gertrude Stein Repertory Theatre’s process of creating digital puppetry, where costume is the character.

## **Appendix D: Historical Background for Digital Illusionary Place**

The invention of perspective was based on the writings of a ninth century Arabic scholar, Abu Ali al-Hasan Ibn al-Haitham (a.k.a. Alhazen), whose work on optics was rediscovered by Filippo Brunelleschi around 1420.<sup>23</sup> Perspective illusion was based on the principle that light enters the eye, rather than being transmitted from it.<sup>24</sup> The first treatise on the subject, *Della Pittura* (1435) by Leone Battista Alberti, provided the mathematical equations to determine the angle at which the objects in the environment should appear to decrease along the horizon, in relation to the observer, until they disappear at a central vanishing point.<sup>25</sup> As author Steve Neale points out, monocular perspective is based on the centrality of the eye of an individual observer.<sup>26</sup> In the theatre this central point is the primary viewer for which the illusion is intended, the king or other noble for whom the event was staged. Author Una Chaudhuri notes that illusion of depth facilitated by the central point of view and proscenium arch (acting much like a picture frame on a landscape painting) came at the cost of previous types of audience participation.<sup>27</sup>

Spectacular masques created by Inigo Jones for the English court give insight on the importance of these spectacles of place recreated on stage for the pleasure of

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<sup>22</sup> Goldberg, *Performance Art*, 112.

<sup>23</sup> Steve Neale, *Cinema and Technology: Image, Sound, Colour* (London: BFI, 1985), 12-13.

<sup>24</sup> Neale, *Cinema and Technology*, 13.

<sup>25</sup> Brockett, and Hildy, *History of the Theatre*, Ninth Edition, 165.

<sup>26</sup> Neale, *Cinema and Technology*, 12.

<sup>27</sup> “Perspective is one of theater’s fundamental spatial techniques. Indeed, the history of the Western theater’s relationship to space sustained a traumatic break when the principles of perspective drawing were introduced into the protocols of scene design by the sixteenth century. The stage aesthetic that developed rapidly thereafter proved to be a costly bargain: with the illusion of depth now available to it, set design could supply astonishing degrees of realism, but only—and always—within the confines of the picture frame, the proscenium arch. Pushed outside this frame, banished from participating in the life-art dialectic that is theatrical process, the spectator became a viewer and had to relinquish the unique experiential mode of receiving art that is offered by this art alone. True, this new mode of spectatorship recast the ideal spectator as a sovereign, giving him a model of individuality, centrality, and authority to aspire to: the position in the auditorium from which the perspectival effects were seen to perfection.” Chaudhuri, “Land/Scape/Theory,” 20.

monarchs.<sup>28</sup> The world of fantasy created on stage via magical stagecraft allowed the monarch to enact their own vision of the world.<sup>29</sup>

## **Appendix E: Panoramas and Other Painted Places**

The Panorama, Georama, and Diaorama are all examples of painted landscapes which utilized spatial effects including perspective, chiaroscuro, and depth of field to give the viewer a sense of proximity to a vast painted vista or scene. In a panorama a large canvas lit from above, was stretched on a circular wall allowing its vista to join to give the impression of a full 360 degree view. According to Laurent Mannoni,

The canvas (which was effectively endless its two ends met and joined the picture continuously)...offered an immense ‘point of view’ which gave its audience the impression of being at the heart of an imposing representation. It hinted at the dream of a complete spectacle, of ‘total cinema’ finally realized in the 1980s and 1990s by large-scale projection systems such as Imax and the 360-degree cinema.<sup>30</sup>

These paintings of landscape, towns and battle scenes were so viewed as being realistic, as to give viewers the feeling of astonishment and even physical reactions.<sup>31</sup>

Similarly, the Géorama was a public entertainment providing an illusionary spectacle of place dependant primarily on painterly illusion. Its inventor, Charles-Francois-Paul Delanglard’s claims of it being a machine “by means of which one may embrace almost any single view on the whole surface of the earth”<sup>32</sup> show the passion of the inventor and hint at the enthusiasm of the crowd of the day to see far of places. The Diorama created by Louis Jacques Mande Daguerre and Charles Marie Bouton in 1822 consisted of three painted scenes (which might contain lighting or animals to enliven the

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<sup>28</sup> See Peacock, *The Stage Designs of Inigo Jones: The European Context*, 4.

<sup>29</sup> See Roy Strong, *Splendor at Court: Renaissance Spectacle and the Theater of Power*, (Boston: Houghton Mifflin Company, 1973), 16. “...metaphor expresses only the most benign aspects of absolute monarchy. If we can really see the king as the tamer of nature, the queen as the goddess of flowers, there will be no problems about Puritans or Ireland or Ship Money. Thus the ruler gradually redefines himself through the illusionist’s art, from a hero, the center of a court and a culture, to the god of power, the center of a universe. Annually he transforms winter to spring, renders the savage wilderness benign, makes earth fruitful, restores the golden age. We tend to see in such productions only elegant compliments offered to the monarch. In fact they are offered not to him but by him, and they are direct political assertions.” Stephen Orgel, *The Illusion of Power: Political Theater in the English Renaissance*, (Berkeley: University of California Press, 1975), 52.

<sup>30</sup> Laurent Mannoni, *The Great Art of Light and Shadow: Archaeology of the Cinema*, translated and edited by Richard Crangle (Devon, UK: University of Exeter Press, 2000), 176.

<sup>31</sup> “This maritime landscape is particularly delightful. The illusion is so strong that the spectators believe themselves to be truly between the harbour and the island, in the op they eve that 6 ladies have suffered from seasickness.” Mannoni, *The Great Art of Light and Shadow*, 178.

<sup>32</sup> Mannoni, *The Great Art of Light and Shadow*, 184.

scene) inside of proscenium arches which were revealed one at a time by a pivoting auditorium which moved the seated audience.<sup>33</sup>

Some of these painted places required light changes to help complete the illusion of place effected by the passage of time. Night<sup>34</sup> or weather effects helped viewers believe in the realism of these recreated places. “The public were enchanted by the changes of lighting, the passage of a cloud across the canvas, the sun going down slowly, and so on. However, as one critic commented: ‘If the scene were to be animated with moving characters, I could not believe that I found myself in front of a painting.’ In spite of all the effects of light reflection and refraction, the canvas still remained static.”<sup>35</sup>

The Eidophusikon created by Philippe Jacques de Loutherbourg is perhaps the best example of the depiction place through moving parts and unified scenic elements outside of a theatre set. The Eidophusikon was a miniature world brought to life by realistic lighting and weather effects and detailed features and moving parts.<sup>36</sup> The Greater London Council wrote:

The Eidophusikon was a miniature theatre without actors, almost resembling a peep show; its originality was based on the discovery that ‘by adding progressive motion to accurate resemblance, a series of incidents [were] produced from nature.’ In the initial advertisement in the *Public Advertizer*, Loutherbourg had explained its novel attraction as an ‘imitation of Natural Phenomena, represented by Moving Pictures.’ Such natural phenomena were sunrisings and settings, storms, hails, running waters and conflagrations, which were imitated according to their exact progression in nature.<sup>37</sup>

A contemporary account of performance indicates the viewers’ appreciation for the realism created by the machine. Helmut and Alison Gernsheim said “...the clouds positively floated upon the atmosphere, and moved faster or slower, ascended or descended. Waves carved in soft wood and highly varnished undulated and threw up their foam, but as the storm began to rage, grew more and more violent, till at last their commotion appeared truly awful”<sup>38</sup>

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<sup>33</sup> “This lightweight auditorium could rotate about its axis, on a mechanism of a central bearing, rollers on a driving handle...To give the illusion of being in a real theatre, the audience was separated from the painting by a proscenium, around which Daguerre could arrange fountains, live animals, or scenery.” Mannoni, *The Great Art of Light and Shadow*, 187.

<sup>34</sup> “On the other side of the canvas, details of the same landscape were picked out in paint to give a night effect—the moon...” so that when the lighting was changed, the nightscape showed through. Mannoni, *The Great Art of Light and Shadow*, 187.

<sup>35</sup> Mannoni, *The Great Art of Light and Shadow*, 187-188.

<sup>36</sup> It recalls the small scale depiction of place in Heron of Alexandria’s mechanized theatre.

<sup>37</sup> Greater London Council, *Philippe Jacques de Loutherbourg, RA: 1740-1812* (London: Westerham Press, 1976), (no pagination).

<sup>38</sup> Helmut and Alison Gernsheim, *L.J.M. Daguerre* (New York: Dover, 1968), 43. Also quoted in Neale, *Cinema and Technology*, 25.

The use of projection to create a sense of scene can be traced back as far as the use of the Magic Lantern (and forward into today's digitally animated sets). According to Mannoni, Laurent, author of *The Great Art of Light and Shadow*, a *lanterne vive* or "living lantern" used in the Middle Ages produced only a colored glow, not a true projection.<sup>39</sup> Around a candle, strips of painted translucent paper would rotate causing shapes to dance around a room.<sup>40</sup> But from this source point, the popularity of Magic Lanterns and projection grew.

What Kirby significantly refers to as the "personification by technology rather than by actors,"<sup>41</sup> can be seen in the example of Mauro Montalti's "Electric-Vibrating-Luminous" Theatre manifesto, which describes a large wall of lights programmed to perform colored sequences representing the enactment of scenes<sup>42</sup> much in the same way LED displays can be used to map images or create patterns for concert events today.<sup>43</sup> Theatrical place became the place of action, the stage rather than an illusionary or specific environment.<sup>44</sup>

Likewise, the Bauhaus artists experimented with projection in 'light plays' in which the main characters and actions were changes of light.<sup>45</sup> The Bauhaus artists' performance experiments began to multiply the sources of light, adding layers of colored glass which were projected onto the back of a transparent screen, which produced kinetic, abstract designs. "Sometimes the players followed intricate scores which indicated the light source and sequence of colors, rheostat settings, speed and direction of 'dissolves' and 'fade-outs'."<sup>46</sup> Both groups conducted experiments with film and performance.

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<sup>39</sup> Mannoni, *The Great Art of Light and Shadow*, 28.

<sup>40</sup> "A strip of translucent paper, on which were painted grotesque or devilish figures, was inserted into a cylinder of paper or decoratively pierced sheet metal. On top of the cylinder was placed a sort of propeller made of tin, which was free to rotate about an axis formed by an iron rod, and which secured the translucent drawing in place. A candle burned at the centre of the device. The heat given off by the candle caused the propeller to turn, rotating the painted strip so that the brightly coloured images travelled around the light at their centre." Mannoni, *The Great Art of Light and Shadow*, 28.

<sup>41</sup> Kirby, *Futurist Performance*, 91-92.

<sup>42</sup> See Kirby, *Futurist Performance*, 91-92.

<sup>43</sup> Dixon compares these early works with one of Saltz's installations in Beckett Space.

<sup>44</sup> "Symbolism frequently did away with specific place. But the mood, atmosphere, of feeling of place still existed. The spectator felt that the performers were in an environment quite different from that of the audience. In certain of the Futurist *sintesi* even this poetic, nonspecific sense of place was eliminated, and the place of the action was the stage itself." Kirby, *Futurist Performance*, 60.

<sup>45</sup> "By contrast, the students Ludwig Hirschfeld—Mack and Kurt Schwerdtfeger, independently of the Stage workshop, experimented with 'flattening' space in their *Reflected Light Compositions*. The 'light plays' began as an experiment for one of the Bauhaus festivities of 1922: 'Originally we had planned a quite simple shadow-show for a Lantern Festival. Accidentally, through the replacement of one of the acetylene lamps, the shadows of the paper screen doubled themselves, and because of the many differently coloured acetylene flames, a 'cold' and a 'warm' shadow became visible...'" Goldberg, *Performance Art*, 106.

<sup>46</sup> Goldberg, *Performance Art*, 106.

Piscator sought to create a didactic theatre which reflected the style of documentary drama or “learning plays”<sup>47</sup> which gave the audience multiple channels of information including film footage which contradicted action on stage or informed the audience on worldly matters beyond the scope of the individual character. “At times as many as three different events (for example, three battles) were shown on screens simultaneously while a dramatic episode was in progress on the stage.”<sup>48</sup> In addition to using historical footage, Piscator created<sup>49</sup> footage to accompany scenes and used film to create captions commenting on stage action.<sup>50</sup> In some cases “there were even projections in the auditorium.”<sup>51</sup> Piscator “proposed three overlapping uses of these techniques in stage production: the documentary or instructional; the dramatic (when incorporated with the action either as transitional links or simultaneously with stage action); and the editorial, addressing the spectator directly while accompanying the action.”<sup>52</sup>

Particularly noteworthy examples of Piscator’s use of filmic projection are his works, *The Storm Over Gotland*, *Flags*, and *Rasputin, the Romanoffs, the War and the People, who Rose up against Them*. These demonstrate the use of cinema to indicate real places, historical events, and to create a dialogue between fact and fiction. In *The Storm Over Gotland*, the fluid filmic seascape of a ship rocking on the ocean (as well as diagrams indicating the position of the fleet) was projected on stage rather than recreated through physical scenic means with greater visual verity than could otherwise be possible. In *Flags* an army of peasants march toward the camera, their garments morphing and changing with the passing of each generation, indicating the passage of time in a quick, seamless continuous transition.<sup>53</sup> The film communicates an alternative understanding of time, memory and fate to the audience, a sense of reality which is

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<sup>47</sup> John Gassner, *The Theatre in our Times*, (New York: Crown Publishers, 1954), 13.

<sup>48</sup> Brockett, Oscar G., and Robert Findlay, *Century of Innovation: A History of European and American Theatre and Drama Since 1870* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1973), 410.

<sup>49</sup> “For this a whole film had been made, on a script written by the dramaturgs using newsreel material and specially shot scenes with the actors.” Willett, *The Theatre of Erwin Piscator*, 85.

<sup>50</sup> “He projected portraits of the characters on the backcloth during the prologue, and had further screens each side of the stage for projections during and between the scenes, using these not only for documentary illustration—posters, news cuttings and manifestos—but also for cinema-like titles or captions. Thus when the anarchists came up for trial the projector showed the anticipatory title ‘Condemned to death...’” Willett, *The Theatre of Erwin Piscator*, 58.

<sup>51</sup> Willett, *The Theatre of Erwin Piscator*, 63.

<sup>52</sup> Jarka Burian, *The Scenography of Josef Svoboda* (Middletown, Connecticut: Wesleyan University Press, 1971), 79.

<sup>53</sup> In *Flags*, “The crucial sequence showed five figures marching side by side towards the camera... As they marched their costumes changed (reflecting the Peasants’ Revolts—ie. 1789, 1848, 1917/18) to demonstrate the continuous triumphal march of social revolution.” Erwin Piscator, *The Political Theatre*, translated by Hugh Rorrison (New York: Avon Books, 1978), 136-137.



rooted in the historical accuracy of real actions occurring in real places to real historical bodies.

Despite the fact that many of these stage machines were costly, “far too noisy” and “a threat to life and limb,”<sup>54</sup> they were an important part of Piscator’s attempt to integrate the technology of his day into the theatre and to bridge the gap between mediums. In these earlier shows and Piscator’s work, we can see the attempt to work out the emerging struggle between staging theatre using two dimensional projection and three-dimensional live actors and set elements. This issue can be traced back to the necessity of creating a shallow playing space and multiple prosceniums in early perspective scenery, and will be carried forward into today’s projectionist staging using flat screens as hosts to 3D animations. Perhaps this ongoing issue could have been solved (to some degree) if Grosz’s Total Theatre (with its multiple projection angles, mechanical accommodations and flexible playing spaces) had ever been constructed for Piscator.

According to Jarka Burian, unlike the didactic or documentary use of filmic projections by Piscator, Brecht, and the “subsequent American Federal Theatre’s Living Newspapers,” Svoboda and Burian (his predecessor) sought to produce atmosphere or “emotive effect.”<sup>55</sup> It is from Burian that Svoboda took up the reigns of projectionist theatre of Piscator, and who as a scenic artist and proficient technological inventor, crafted the mechanism and aesthetics of the *Lanterna Magika*, perhaps the most advanced jointure of live and filmic performance in the pre-digital era.

## **Appendix F: ArtGrid**

For *InterPlay: Hallucinations*, Brian Buck and I were in a small room with two assistants, two PIGs (comprised of computers, video cameras, headsets/microphones and speakers), one projector and an archival camera. We improvised and provided our own costuming, properties, and much of the computer equipment. We had converted a classroom into our mini-Access Grid performance space and performed the roles of technicians (installing and maintaining the PIGs even during the performance if necessary), camera operators, performers, and content creators (MIDI-video, etc.). It was an experience of “hey, let’s try it and see what we can do.”<sup>56</sup>

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<sup>54</sup> “...gadgets which did not yet function smoothly; thus the lifts in *Der Kaufmann von Berlin* were a threat to life and limb, and the Schweik treadmill’s far too noisy: We had the impression of a steam mill working flat out. The bands clattered, rattled and puffed till the whole building shook. However hard you shouted you could scarcely make yourself heard.” Willett, *The Theatre of Erwin Piscator*, 114.

<sup>55</sup> Burian, *The Scenography of Josef Svoboda*, 79.

<sup>56</sup> As Paul Jackson likes to say, our enthusiasm and aesthetics is akin to garage theatre or “I’ve got a barn” attitude of old Mickey Rooney and Judy Garland films.



Fig. 86: Camera and screen setup for *Hallucinations*. Photo by author.

Over time *InterPlay: Loose Minds in a Box* evolved into three other iterations as our local cast/crew changed. But certain aspects, such as the unsocialized individual coming out of a blue cocoon against the white wall, the red mother and daughter violent hair brushing scene, the couple's waltz, the doll house, paper dolls, and dressing scene, and the little girl in blue for the poem that ends the piece, remained. One of the potentially most compelling mixes involving scale at our site included my body posed and ready to be dressed by cut-out paper doll clothes from Alaska and put inside of the doll house on the other side of the room in Maryland.<sup>57</sup>

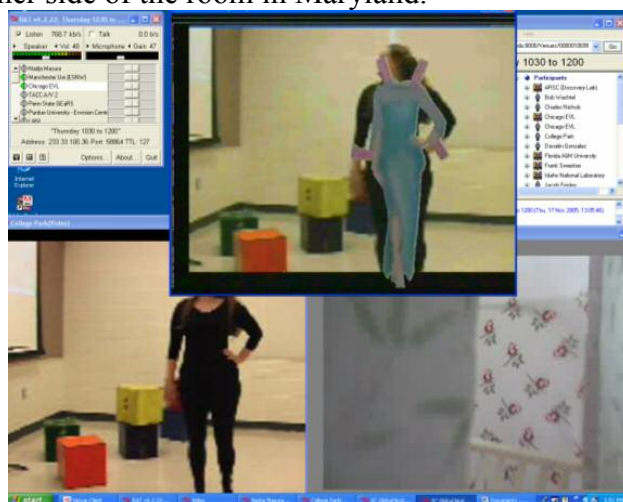


Fig. 87: Screenshot of *Loose Minds in a Box*. Screenshot by Peter Rogers, used with permission.

For me, one of the highlights of *InterPlay: Dancing on the Banks of Packet Creek* was moving in relation to the two dancers at Perdue while on the blue screen which allowed us to visually share space. Another highlight for me was swimming on the screen while shot above from a ladder, allowing me to surf the other sites' video and

<sup>57</sup> In 2006, I presented a paper at the Women and Theatre Program feminist pedagogy workgroup, unpacking the depiction of female caricatures in this piece in terms of the performance of straight female gender. See Nadja Masura, "Body, Gender, and Community Across Virtual Borders," paper presented at the Association for Theatre in Higher Education conference, Chicago, IL, August 1, 2006.

animations. Also rewarding was collaborating with Jimmy Miklavcic on a piece of spoken text which I wrote in terms of water flow and he adjusted to fit information flow in an online dramaturgical session.<sup>58</sup>

Many of the other sites had more sophisticated computer resources than our local group, because they were associated primarily with computer sciences or research facilities, rather than the performing arts. As the interest in performance happening on the Access Grid grows, additional artists in the campus and professional communities are becoming involved in the performance adding to the variety and quality of performance. It is much more difficult, however to approach from the artistic side and to convince performing arts programs rooted in traditional forms of performance to increase their technology. For the first two years of our involvement, I and my collaborator, Brian Buck performed in classroom spaces, utilizing our own resources and some of the University's (such as a single CPU and the classroom projector). It was great luck that for our third year of performance, I hooked up with Paul Jackson, Technical Director of the Dance Department, an independent thinker and one of the few staff members who was open to and skilled at technology collaboration.<sup>59</sup>

The four of us—Paul Jackson, Moira Jackson, Peter Rogers, and myself—generally had multiple performance tasks and technical responsibilities.<sup>60</sup> Because we all had previous experience with *InterPlay* or at least basic training in the use of the PIGs, we were able to function as a unit, each interchanging between roles of performer and

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<sup>58</sup> “While one is not equal to zero, begin: Packet by packet, block by block, We seep in, pause to saturate the fibrous optical tumor, then slip unperceived beneath errors and root’s power, gather electron speed, churn with muddy waters carving the data bank in swift gushes- recurse and bend, bend and recurse, recurse and bend, bend and recurse, crashing into the sea of data, again becoming what we once were.” Jimmy Miklavcic, text from *Dancing on the Banks of Packet Creek*, 2006.

<sup>59</sup> In the center of the room was a table with an miniature Zen garden and cut-out words, a ladder and two (and a half) PIGs: to the left the desktop Dell computer with a cheap Logitech camera which could be hand-held and moved anywhere, and slightly to the right, Paul’s Mac with a newly installed PIG allowing for two streams; one from a minor web-cam, another from either a good camera or from a transmission of prerecorded video files of water or Google Earth images of rivers from space. On the first wall of the rectangular space was the projected image of the Dell PIGs desktop, showing most of the windows of the performers, our feeds, and the Main Mix. This was to help us stay abreast of the action and orient ourselves in space and time in relation to the other performers in the Mix—as well as for the audience. In the corner of the next wall was the area setup with the blue cloth (water) and papier maché boat which we manipulated along waves during the Irish jig scene. The next wall was bare except for the Dell PIG and a microphone station and my laptop PIG which I used both for cueing (which was set up on Jabber), and the text I read as a voice-over during the performance. The third wall contained properties (and was a “back stage” space), while the fourth wall held the bluescreen and the rehearsal mirror, and the occasional audience member. With Paul’s help we secured a choreography studio and upgraded our equipment by one PIG with the ability to send two streams. With a larger space we were able to facilitate a local audience and set up the blue screen on loan from University Video services. The space was a free and active arrangement of surfaces, computers, and mobile bodies. We played with shooting the bluescreen from the front and above (as mentioned earlier), the reflective surface of the mirror, the white walls, even the views out the windows and the lofted industrial-looking ceilings. It was as though we had been set free in our own world of cameras and computers.

<sup>60</sup> Due to the fringe nature of our performances, (despite growing acknowledgement from off-campus sources) I was glad to have the committed team we did.

technician on various levels at different times within the performance. One might hold a camera on another while they danced, another would take screenshots, then switch and allow the other to move in front of the camera. It often took all four of us to create the desired effects on both PIGs or with staging. (An example was when we had two people wave the blue cloth, one to manipulate the boat, and another to come in close with the camera.) It was an exhilarating experience, and very fulfilling.<sup>61</sup>



Fig. 88: Computer and space set-up for *Dancing on the Banks of Packet Creek*. Photo by Peter Rogers, used with permission.

Performances with technology are not often without incident.<sup>62</sup> Anything can happen; the key is to just keep going. Unexpected events are part of “live” theatre instances which make it clear the necessity and difficulty of wearing multiple hats as coordinator/performer/technician, as more trained hands make for easier work. At this point, this type of performance can not—by its nature as a technology blended event—be perfect. The evolving nature of the Access Grid platform and awareness of our own limitations instill a sense of competence and readiness; we need to be able to fix things as they happen and roll with the unexpected. It is always evolving, and committing to this type of multi-site performance means retaining flexibility and above all, remaining in the moment—alive to all the sights, and sounds, and messages around you.

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<sup>61</sup> Julia Glesner describes a similar project called the *Cassandra Project* in her article, “Internet Performances as Site-Specific Art,” in which “Computer networks connecting performers in real time with other performers and audiences at remote sites allow for text, dance, and music to serve as improvisational material during the performance. The physical space in which the performers are actually located is a specifically designed area equipped with at least one projecting screen, controllable lighting, and enough clear space for approximately three to five dancers and, in some cases, musicians. Video cameras, placed at all locations to capture the performers, feed the live images into an Internet-connected computer. . . Monitors display the incoming images so that the dancers and technicians can view all other performers at the remote sites. A video projector enlarges the images during the performance.” Glesner, “Internet Performances as Site-Specific Art,” (no pagination).

<sup>62</sup> In earlier *InterPlays* there were moments where the PIG would stop working, moments when the video would cut out if someone tripped the cable, classroom projectors on timers that turned themselves off in the middle of a performance, and one time the blue screen came down on me while we were in the main mix. Occasionally, I would have to leave the stage area to attend to a technical issue and during performances verbal cues would often be given aloud.

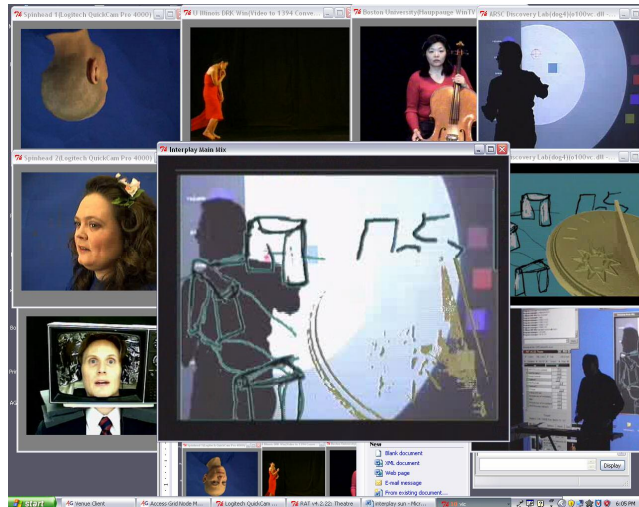


Fig. 89: Screenshot from Nel Tempo di Sogno. Screenshot by author

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