The Stage, the screen and the space between:

Re-thinking projected imagery in live performance

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Abstract

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Catherine Boivin

This thesis explores the use of moving image projection technologies in stage performance as it relates to dramaturgical and scenographic aspects. Projection techniques have been used in theatre since the seventeenth century, but it is not until the advent of cinema that the moving image begins to considerably influence stage practices including narrative, *mise en scène*, acting and spectatorial relations as well as the construction of stage space. This thesis traces the history of interconnectivity between screen media (film, video and digital imagery) and theatre in order to better understand critical issues that continue to challenge both stage practitioners and theorists today, in particular regarding the relation of actors and stage design to the screen image. This analysis also brings to light the long-lasting struggle of the stage between two-dimensional image reproduction and creation techniques and three-dimensional stage architecture and performing bodies.

This thesis uses a combination of critical and historical writings with personal experience and interviews to draw insights into how the stage and screen, two mediums with distinct ontologies, may be reconciled.

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Finally to my friends and family I wish to apologise for my many disappearing acts during the last couple years and for spending more time with my computer than with the most important people in my life.

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Introduction

What happens when you take a cinema screen and place it on the stage of a live theatre performance? The purpose of this thesis is to explore the fertile and complex relationship between the stage and the screen in relation to the evolution of the construction of stage space. In order to analyse the construction of stage space, this thesis will look at the effect that the insertion of moving images (film, video or digital imagery) on stage has on different aspects of live performance, including narrative, *mise en scène*, performance and relation to the audience. This thesis will also examine how the definition of stage space has evolved from the Renaissance to the twentieth century specifically regarding the struggle between two-dimensional means of reproducing and creating images and the three-dimensional physicality of stage architecture and the performers inhabiting this space; how this history informs our understanding of the use of screens in contemporary live performance; and how contemporary theatre artists contend with the challenges and contradictions inherent in the meeting of image technologies based on a two-dimensional mode of presentation and the plasticity of bodies, structures and movement in live theatre.

As evidenced by the rising amount of books and articles written about the use of projection technologies in live performance, the presence of screens on stage is a prevalent topic in the field of performance studies today. Greg Giesekam opens his book *Staging the Screen* (2007) with the observation that "everybody's doing it" (4), using video projections in the theatre, and adds that it has even become a marketing tool to attract larger audiences as if theatre needs to "[advertise] itself as bringing television or cinema into your local theatre" to compete with other entertainment offerings (4). Philip Auslander, a leading contemporary media and performance critic, wrote that "[the] general response of live

performance to the oppression and economic superiority of mediatized forms has been to become as much like them as possible…. [E]vidence of the incursion of the mediatized into the live event is available across the entire spectrum of performance genres" (Auslander 7). Quebec theatre artists Michel Lemieux and Victor Pilon, from 4D Art, as well as Robert Lepage make similar observations about their work but insist that it is not in fear of losing audience members or in the spirit of engaging in battle with the cinema and television. It is rather a way of doing theatre that speaks to contemporary audiences in a language that is intimately tied to their daily lives.[1] The visual and technological vocabulary of audiences today is extremely developed; it is almost impossible to imagine our lives without the multitude of screens and visual displays that surround us (televisions, computers, mobile devices, flat screen displays…). And according to Lepage if the theatre director does not engage with these languages they are depriving themselves of a powerful vehicle of meaning and expression that can reach beyond words.[2]

Still, many critics, taking a cue from the lineage of Grotowski's "poor theatre", argue against employing film or video on stage, preferring an essentialist view that opposes theatre's 'liveness'[3] to the mediation of image technologies.[4] These critics contest that

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[1] I conducted personal interviews with Robert Lepage and the 4D Art team (Michel Lemieux and Victor Pilon) in the course of this research. Robert Lepage, personal interview, 17 March 2009. Michel Lemieux and Victor Pilon, personal interview, 25 September 2008.

[2] Lepage, personal interview, 17 Mar. 2009.

[3] The term 'liveness' was popularised by Philip Auslander in his book *Liveness: Performance in a Mediatized Culture* (1999). I will further discuss the question of 'liveness' in chapter two in relation to the actor.

[4] Grotowski's views influenced the writings of theatre artists like Peter Brook and Eugenio Barba, yet both have employed elements of visual spectacle in their work (Dixon 27). See also contemporary critic Peggy Phelan who follows in Grotowski's critical lineage with her book *Unmarked: The Politics of Performance* (1992).

“there is a mismatch of media and a corruption of theater’s purity as a live form” (Dixon 26). Like Grotowski, many theatre artists throughout the twentieth century have advocated for theatre to be reduced to its essence. Grotowski believed that “no matter how much theater expands and exploits its mechanical resources, it will remain technically inferior to film and television,” (qtd in Dixon 27)[5] and therefore he and other like-minded artists emphasise the elimination of the superfluous (Dixon 27). These critics however tend to “underestimate the extent to which theatre has often involved a range of mediations” (Giesekam 6). Opposite to this view is the additive process of technologically enhanced performance where new ingredients are added to provide the director multiple ways of telling a story. Although this debate has a long-running history in the centuries-long oscillation between a stripped-down theatre and the theatre of visual spectacle,[6] my concern is not with trying to determine whether the use of moving image technologies is ‘good’ or ‘bad’ for the stage. I am more interested in understanding how these technologies have influenced what we do on the stage. The technology is here. It is more and more accessible to theatre artists by its decreasing cost and its increasing ease of use, so why should we not tap into this fertile resource as generations of theatre artists before us have taken advantage of whatever new technology was available to them?

As a novice theatre designer I was naturally drawn to the allure of video and digital technologies, but I had a suspicion that there was more to it than just pointing a projector to a screen and hoping all the other elements on stage would fall into place. My interest in this research therefore stems from my professional artistic practice as a theatre designer

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[5] See Jerzy Grotowski, *Towards a Poor Theatre* (1968).

[6] Steve Dixon ties this controversy all the way back to Aristotle who placed “spectacle” at the bottom of his list of the constituents of drama (28).

with a physical disability, and as such my point of view and methodology are intrinsically tied to my reasons for choosing theatre design as a profession and to my reasons for exploring the use of digital imagery in theatre with this project. I chose to study theatre design because I felt physically limited in my artistic ambitions, only able to draw or paint on a constrained two-dimensional surface. After studying Art History and practicing painting and drawing for years, I discovered theatre design as a way to break through the surface of the canvas and explore the third dimension. I longed to create something larger than life on a canvas molded from my own hands. As a theatre designer I could create using other people's hands. My particular interest in video and digital technologies stems from my reliance on the computer to fulfill my tasks as a designer. The computer is an indispensable creative tool that allows me to represent the world of the stage that I envision. With 3D modeling and digital storyboarding already in my artist's palette, video editing and projection design seemed like a natural addition.

My growing curiosity about the creative possibilities of digital technologies led me to read Ludovic Fouquet's *Robert Lepage, l'horizon en images* (2005) on Lepage's use of image technologies throughout his career as a director, designer and actor (up to 2005). This book was instrumental in helping me to think analytically about how these technologies are used in theatre, and led me to the realisation that I might find myself once again confined to a planar frame,[7] though now this frame could contain an entire universe and travel through time and space. However, when this digital universe is placed on the stage next to a living body, I realised that its depth became illusory, confined within an image on a flat surface, not unlike the tradition of painted scenery dating back to Leon

[7] Fouquet compares the use of the projection screen to the use of the painted canvas backdrop in stage design (184-85).

Battista Alberti's discovery of perspective painting in 1435. These newfound insights prompted further research into what emerged as a long history of complex interrelations between technological and artistic practices used to represent the world on stage and the socio-political context informing the dramaturgical aspects of stage production. This research showed that the spatial configuration of the stage at a given time is not only defined by scenographic intentions but intricately woven with questions of narrative, *mise-en-scène* and performance, each one influencing the other and altogether determining how the space of the stage is used and constructed. All of these aspects, therefore, will need to be investigated to understand why the use of filmed images appeared in theatre, how these projected images were integrated into the stage configuration, and to subsequently engage in a critical discussion of other related issues still relevant today.

An interdisciplinary approach to this research was obvious from the start as my readings took me across the fields of performance studies, film history and theory, theatre history and theory, media studies, architecture and visual art theory, as well as philosophical texts on art and technology. Although it may seem that the historical context of video projections on stage would be relatively short and concern a limited field, I found it necessary to trace and understand multiple histories that reach much farther back than the beginning of media projections on stage.

In this study I will therefore follow three interconnected histories woven throughout the ensuing chapters. First there is of course the account of the evolution of motion picture technologies, which will, in this case, trace back to the inception of film at the turn of the twentieth century while referring to older projection practices such as the *camera obscura*

and the phantasmagorias of the late nineteenth century.[8] Although these older practices introduced the concept of projected light in a darkened room creating 'virtual' images produced for a viewer's delight (Friedberg 60), it is with the advent of the film screen and the recorded moving picture that important changes in dramaturgical practices start to occur, modernising the stage and initiating a 'cinefication' that continues to inform how theatre is constructed and performed to date.

Second, there is the history of a particular type of theatrical performance that has been called 'image-based theatre' since Bonnie Marranca used the term in the 1970s to describe what artists of the American avant-garde theatre were doing. This type of performance evolved out of the cross-stimulation of film and theatre in the early years of the twentieth century, and out of its continuation in multidisciplinary artistic efforts such as happenings and performance art in the seventies, bearing witness to the effect of generations of image technologies and to the heritage left by the avant-garde artistic movements of the early twentieth century. Increasing value was placed on performance with the result that this new theatre never became literary but instead was dominated by images, both visual and aural (Marranca ix). This lineage reaches back to Richard Wagner,

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[8] The *camera obscura* is based on the principles of pinhole projection, which have been known since antiquity (Friedberg 60), and developed from an optic and drawing instrument to a light projection apparatus later known as a *laterna magica*. In the seventeenth century, lantern projections of della Porta, Kircher, Huygens, Walgenstein, Sturm and Zahn began to demonstrate that light could be harnessed and deployed as an entertainment medium (Friedberg 152). Through the decades, this technique improved to the point where the lantern could be concealed and the image redirected onto a mobile screen; this was the birth of the *phantasmagoria*, which reached spectacular success in theatres across Europe in the late nineteenth century (Grau, *Media Art* 142-45).

often recognised as the father of modern stage practices,[9] and who, more pertinently for this study, put forth the notion of theatre as a 'total artwork', the *Gesamtkunstwerk*. As early as 1849 Wagner defined this notion of the "future work of art", or "joint work of art", as a union of the arts working together: poetry, music, acting, architecture and painting (Dort 61). This concept is central to the work and theories of early twentieth century artists, for example: Antonin Artaud, who claimed a non-literary theatre of the senses in which "the reality of imagination and dreams will appear there on equal footing with life" (Artaud 123); the Futurist movement, who "sought a multimedia convergence of artforms and the marriage of art with technology" (Dixon 47); and the German Bauhaus artists, who conceived performances with immersive multimedia environments. This legacy is also fundamental to current practices of "digital performance":

> both in its advocacy for grand theatrical spectacle and in the paradigm of "convergence" that unites the *Gesamtkunstwerk* with contemporary understandings of the modern computer *(or stage)*[10] as a "meta-medium" that unifies all media (text, image, sound, video, and so on) within a single interface. (Dixon 41)

I will focus on these types of theatrical performances because they present the most interesting and complex relationships between the live elements of the stage, the performer, the immediate physical environment and the audience, and the 'non-live'

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[9] Bonnie Marranca relates Robert Wilson's work to Wagner's as a "modern day *Gesamtkunstwerk*, unifying all the arts in a spiritual atmosphere of illusion and mysticism" (39). According to Marranca, Robert Wilson is one of the three leaders of the early theatre of images, along with Richard Foreman and Lee Breuer, and among Wilson's followers is Robert Lepage, contemporary director of the theatre of images (Carlson 120-21).

[10] Italics my addition.

elements of projection technologies, the screen (or other display devices) and the recorded or mediated images. They also offer interesting cases for analysing the ongoing struggle in stage design between pictorial techniques of spatial representation and architectural realities of stage space. Different terms have been associated with image-based performance through the years: mixed-means theatre,[11] intermedia, digital performance, and of course multimedia performance. Although Greg Giesekam attempts to assign specific meanings to differentiate 'multimedia' performance from 'intermedia' performance, ascribing to 'multimedia', productions in which the media component (film, video or CGI) is used primarily as background information or setting and to 'intermedia', productions in which the media component is seamlessly intertwined with the performance and construction of the piece (8-9), I do not particularly see the advantage of such terminology debates. It is clearly not that simple to define these types of hybrid performances. More than a single all-encompassing term is required to properly discuss them, therefore I will not favour one term over the others but use them interchangeably throughout.

The third history I will be following is the long-lasting debate on two-dimensionality versus three-dimensionality in the shifting understanding of stage space creation. Wagner was one of the first directors in the modern age to write about the necessity to bring theatre back to its roots as a complete artform based on the performance of live actors, and although his *Gesamtkunstwerk* theory ties him to multimedia practices through the

[11] Term coined by Richard Kostelanetz in *The Theatre of Mixed-Means* (1968).

twentieth century to contemporary stage artists like Josef Svoboda and Robert Lepage,[12] in practice his vision did not quite translate in scenographic terms. With his newly designed opera house in Bayreuth (1872), Wagner challenged traditions of theatre architecture with his radical ideas about the relation of actor and audience (Mackintosh 44), but he did not carry these ideas behind the footlights where the stage space remained in the conventional framework of the nineteenth century's naturalistically rendered painted flat scenery.[13] Theatre artists like Adolphe Appia and Vsevolod Meyerhold expanded this search for what constitutes the 'essence' of theatre to a complete reworking of spatial construction that responds to and enhances the actors' presence and movements. Both Appia and Meyerhold came to the conclusion that the painted flats from the nineteenth century were a complete contradiction to and came into conflict with the corporeality of the actor. Through their voluminous writings and their contributions as designer and director respectively, they made a definitive argument for the necessity of three-dimensional sculptural environments in which the performer can fully thrive.

Interestingly, this reform coincided in time with the discovery of film, and it did not take long before film screens made their way into the theatre, raising questions about how to integrate this new technology with a new understanding of the three-dimensional nature of stage space. The appearance of film screens meant there was a new tool to create images on stage, a new technology that surpassed what any perspective painter could

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[12] Josef Svoboda (w 1950s-1980s) is a theatre designer and director from Prague who experimented greatly with numerous optical devices and projection technologies. Robert Lepage (w 1980s-) is a Canadian director, actor and designer who has worked in both film and theatre and who is also recognised for his theatrical experimentation with film and video techniques. Both Svoboda and Lepage have used their creative talents and modern technologies to refashion some of Wagner's repertoire.

[13] From a quote by Adolphe Appia in 1925 (Mackintosh 44).

represent since it could capture movement and the passage of time. However, it was not entirely unlike perspective techniques developed after Alberti's formula for the representation of a three-dimensional view onto a two-dimensional plane, for although the moving image may give the impression of depth it remains on the two-dimensional surface of the screen. In 1916 Hugo Münsterberg described the cinema screen as the equivalent of putting a glass plate in front of the stage in place of the curtain, giving the impression of looking into a real space, yet the deception is never full and the depth is not actually taken for real depth (Friedberg 154). Likewise the 'window' from Alberti's perspective painting technique serves as a frame for "the *virtual immateriality* of spaces seen within its boundaries" (Friedberg 6). This line descendant of Alberti and perspectivism proves to be central in the theorisations of the spaces of vision. And the stage, as a representational space, is not only caught up in this history of visualities,[14] but it must also deal with different levels of 'virtuality' and concrete dimensions.

These three histories or lines of thought will appear at several intervals throughout this study to support and inform a discussion that will not aim to provide definitive answers, but rather offer insights and timely reflections about the use of moving image technologies in theatre design, something I believe new stage designers should consider carefully before resorting to projection by default. I will start by sketching a historical review of pertinent shifts in the conception and creation of stage space from the Renaissance to the turn of the twentieth century, followed by the history of the origin and evolution of film in twentieth century theatre practices from the 1920s to the 1970s and the dramaturgical implications

[14] Anne Friedberg defines the term "visuality" as referring to the social, psychical, and historical habits of vision, where "vision" is the perceptual experience of sight (249). These terms were discussed and delimited during the 1988 Dia Foundation Discussions in Contemporary Culture, whose proceedings were published under the title *Vision and Visuality* edited by Hal Foster.

of moving media projections within a live theatre context. This first chapter will use a combination of historical survey and literature review of original texts from chosen theatre practitioners that raise questions about the screen in relation to both the performer and the designer. With this historical and literary background established, the second chapter will discuss the role of the live performer who occupies a critical position in the debate on the coexistence of stage and screen. This chapter will look at the shifting role and physicality of the actor in relation to screens, from the deconstruction of the actor to the actor as media, the confrontation between the screen actor and the stage actor, and questions on 'liveness', 'presence' and 'interactivity'. Finally, the third chapter will explore the scenographic implications of the screen and how it relates to the stage space. This analysis of the pictorial and architectural aspects of the stage and screen will look at the confrontation of the *virtually* boundless dimensions of the projected image with the reality of stage and auditorium architecture, questions of 'immersive environments', and virtual versus physical space.

There are certain terms I will use throughout this thesis that need to be defined at the outset to establish how I intend to use them. Indeed terminology debates are popular in the combined fields of media and performance studies, and already I have used a few that require immediate attention. Steve Dixon opens his book *Digital Performance* (2007) with the affirmation that his term "digital performance" is "somewhat problematic" seeing as 'digital' "has become a loose and generic term applied to any and all applications that incorporate a silicon chip" (x). Even more unsettling, the term 'performance' now has wide-ranging applications both within and outside the performing arts. Over the past forty years the understandings of the word have been so stretched and reconfigured that it came to be used in academia to include various facets of philosophy, linguistics, history,

architecture, cultural and social sciences, and even the ‘everyday life’ of general human activity (Dixon x).[15] In this thesis, the term performance will be restrained to the context of the arts of the stage, where a live audience watches live performers whether actors speaking a text, dancers executing a choreography, signers performing arias, or any combination of these acts.[16]

The *act* of performing, however, even in this circumscribed context, is not limited to the *performers*; all the elements of the stage can play a role and emote meaning and even the audience participates in creating the particular symbiosis of live performance. In this context, media and digital technologies can also play a key role in content and aesthetics, but it is my contention that there is no live performance, whether it is theatre, dance, opera, circus, or any hybrid combination, without a live (present) body communicating with a live (present) audience. Though there have been attempts at eliminating the presence of the actor completely in favour of a more unified, more controllable performance ever since Edward Gordon Craig’s *Über-marionette*,[17] my concern is to study the combination of the ‘liveness’ of performance elements *with* the mediation of projection and computer technologies, and not the domination of digital technologies over the ‘live’ components.

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[15] For a thorough introduction to the various academic incarnations of ‘performance studies’ and various definitions of ‘theatre’ vs. ‘performance art’, see Marvin Carlson, *Performance: A Critical Introduction* (2nd ed. New York: Routeledge, 2004).

[16] Josette Féral describes the essential elements of all performance as: first, the manipulation to which the performance subjects the performer’s body, second, the manipulation of space, which the performer empties out and then carves up and inhabits in its tiniest nooks and crannies, and finally, the relation that performance institutes between the artist and the spectators, between the spectators and the work of art, and between the work of art and the artist (Féral 171).

[17] Denis Marleau’s *Fantasmagories technologiques* (2007) is a contemporary example of live actors entirely replaced by static puppets and video projections.

Of course, the concept of 'mediation' is not itself as clearly opposed to the 'live' elements of the stage as one might think, especially today when computer technologies allow for a "constantly expanding toolbox of theatrical effects that each has their own intelligence, sensitivity and subjectivity, that in effect become characters onstage" (qtd in Dixon xii).[18] Since the beginning of mechanical reproduction in the arts of photography and film, the notion of what retains a sense of 'truth' has shifted, from the live, unmediated mediums to the analog photograph or electronic video image. And now with the "realization of the speed and ease with which the ubiquitous digital airbrush can enhance, adjust, montage, and falsify representations" (Dixon 24), it would seem that the stage holds the beacon of 'truth' against the "mismatch of media" (Dixon 26). But performance studies scholars remind us that theatre and dance have always been 'multimedia' events, pulling on all the technologies available at different times. In his book *Virtual Art: from Illusion to Immersion* (2003), Oliver Grau undertakes a near archeological analysis of the historical lineage of 'Virtual Reality' (VR) and immersive environments, going back two millenia to illustrate how multimedia practices have been used for centuries in "illusion spaces" to "maximize suggestion" and "temporarily overwhelm perception of the difference between image space and reality" (Grau, *Virtual Art* 17).[19] He shows how there is a recurrent movement in Western art and media history that seeks to blur the distinction between

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[18] Quote from the online journal *Digital Performance: The Online Magazine for Artists Embracing Technology* created by The Gertrude Stein Repertory Theatre, Spring/Summer 2003 <http://www.digitalperformance.org/DigPerfDefined.htm>

[19] Virtual Reality (VR) artist and critic Diane Gromala also argues that VR's historical precedents can be traced through "the fantastical worlds elicited through mimetic simulations of ritual, dioramas, art, literature and theater… the evocation and perception of a shareable but other worldly place in which humans extend and project their agency" (qtd in Dixon 362). See Diane Gromala "Pain and Subjectivity in Virtual Reality" in *Clicking In: Hot Links to a Digital Culture* edited by Lynn H. Leeson (1996).

reality and "as-if worlds" using the latest imaging techniques (Grau, *Virtual Art* 17). The stage could be seen as such an "illusion space" which has always been concerned with the re-presentation and transformation of reality and using imaging and other techniques to present this *virtual reality.* Unlike Grau's virtual reality and illusion spaces however, the stage is not always concerned with immersing the spectator in the illusion;[20] sometimes the aim is to shock the audience and provoke critical thought. And that is actually how film started to be used on stage. Nevertheless, "[there] is nothing more illusory in performance than the illusion of the unmediated" (qtd in Dixon 153).[21] The term 'media' and its derivatives 'mediatised', 'mediated' and 'mediation' are applicable to a vast number of mediums and artistic practices. In this thesis however, they will apply specifically to electronic or digital moving image technologies that include film, video, computer-generated and/or manipulated imagery, interactive imagery and the various projection and viewing techniques related to their use on stage.[22]

Similarly to the issues related to the terminology of media, the term 'virtual' and its associated derivatives 'virtuality' and 'virtual reality', have been the subject of certain misgivings and misunderstandings. Despite the assertions of some who equate virtuality with the changes wrought by digital technology in the early 1990s, the term existed long

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[20] I will discuss this type of 'immersive' virtual reality in the theatre in the third chapter. Friedberg also argues that the term 'virtual' is often mistakenly associated with the rhetoric of an immersive 'virtual reality' and an observer who is "inside" the image. Friedberg prefers to dissociate the 'virtual' from immersive realities to account for the range of 'virtual' images (still or moving) that are found in frames and observed from the "outside" (Friedberg 11). I will apply this usage of the term 'virtual' to the stage and projection screens.

[21] Quote from Herbert Blau, *The Eye of Prey: Subversions of the Postmodern* (1987), 164-165.

[22] For a more detailed account of the origin and different usage of the term 'mediatised' see Philip Auslander's introduction in *Liveness: Performance in a Mediatized Culture* (New York: Routledge, 1999).

before in the discourse of optics and as a philosophical concept since the late nineteenth century (Friedberg 10). According to Anne Friedberg, the term has been so strictly associated with electronically mediated or digitally produced images that it has lost its descriptive power and utility in making ontological distinctions between objects, in particular materiality versus immateriality (7). She quotes the definition of the word virtual as "of, relating to, or possessing a power of acting without the agency of matter; being *functionally or effectively but not formally* of its kind" (Friedberg 8);[23] the virtual is "an immaterial proxy for the material" (8). The concept therefore refers to the act of representation, either simulacral (where the image has no referent in the real) or directly mimetic, stemming from two early applications in optics – an image produced in the brain without referent in the world, and an image produced out of some optical mediation (lens, mirror, camera obscura) (Friedberg 8-9). Both these meanings with their associated relation to materiality and immateriality were in use centuries before digital systems of representation. The virtual image can be completely immaterial (exist only in the imagination) or have its own liminal materiality - the previously elusive existence of an optical illusion now reproducible by technology. Dixon relates the virtual to Aristotle's distinction between the 'actual' and the 'potential', noting that "the virtual is not what is deprived of existence, but that which possesses the potential, or force of developing into existence"[24] (qtd in Dixon 23). However he also notes that throughout the eighteenth century the 'negative' connotation of the mimetic aspect of virtuality starts to emerge as it

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[23] Quote from *Webster's Third New International Dictionary Unabridged* (1993). The etimology of the term goes back to the fourteenth century, from the medieval Latin *virtualis*, from Latin *virtus* "excellence, potency, efficacy (see *virtue*)" (qtd in Friedberg 154).

[24] Quote from Marie-Laure Ryan, "Cyberspace, Virtuality, and the Text," in *Cyberspace Textuality: Computer Technology and Literary Theory* (1999), 88.

becomes associated with fakeness, an association that persists and pushes many to resist using digital images (Dixon 23-24).

This is another argument that proponents of the 'purity' and the 'real' in live performance use against the incursion of mediated 'virtual' images on stage. But theatre has always been the will to virtuality in its original sense; "[theatre] is always-already a simulation; it stands for something outside of itself. Theater is the inauthentic masquerading as the authentic; the unreal posited as the real" (Dixon 153). For Brian Massumi, there is nothing more "destructive for the thinking of the virtual than equating it with the digital," and in his view digital technologies can actually have a surprisingly weak connection to the virtual "by virtue of the enormous power of their systemization of the possible" (qtd in Friedberg 10).[25] Virtual therefore, released from a media specific nature, is free to operate more accurately as a marker of an ontological property (Friedberg 11). Taking a cue from Friedberg then, in this study the term 'virtual' will serve "to distinguish between any representation or appearance (whether optically, technologically, or artisanally produced) that appears "functionally or effectively *but not formally*" of the same materiality" (11) as the stage. However, to simplify my discussion, I will use the term virtual and its derivatives as referring mainly to the images on the screens or otherwise projected into the stage space and functioning with different ontological properties than the other elements of the stage.

[25] Quote from Brian Massumi "Line Parable for the Virtual (On the Superiority of the Analog)" in *The Virtual Dimension* edited by John Beckmann (1998), 309. Friedberg points out that Massumi's definition of the virtual seems to contradict her reliance on the term for describing an image because, to Massumi, the virtual refuses its own imaging; it assumes a vagueness that is better suited to the imagination (Friedberg 258).

Chapter 1: Historical review of the scenographic and dramaturgical implications of projected moving images on stage

Since the Renaissance the stage has been discussed in terms of certain inherent contradictions, in particular its historical tendencies towards two-dimensionality and its three-dimensional physical reality, a reality that is inescapable when a performer steps onto the stage. The appearance of projection screens on stage has played an important role in this debate, and the appearance of film on stage has participated in a progressive 'cinefication of the stage' that involves not only the spatial construction of the stage, but also the construction of narrative, performance and spectator relations. When modern theatre and coincidentally also cinema emerged in the early twentieth century all of these production aspects were intricately woven together and influenced each other, which is why it is impossible to analyse the implications of projection screens through a purely scenographic lens. It is equally difficult to understand how these aspects of production evolved from the early twentieth century to the sixties and seventies without understanding the social, political and artistic context in which theatre practitioners worked, especially since this context was highly determinantal of how and why projection screens were used. This chapter will follow this evolution of moving images in theatre to better understand how screens affected the ways in which artists built and performed the stage after the advent of cinema. Indeed there is a long history of interconnection between film aesthetics and modern stage practices, and it is important to go all the way back to the emergence of film, over one hundred years ago, to understand the issues still pertinent today. Ever since early attempts at integrating motion picture screens onto the stage and into the stage action there has been much deliberating on the effects of these new images and of these new 'characters' on the living actors and the space they inhabit. The screens necessary to

receive the fascinating moving images arrived on stage not long after painted scenery flats had been shunned. In the space of twenty or thirty years, after the cry for a stage that responded to the actor's body, had stage designers found their way back to an essentially pictorial setting? Or had the lessons of theatre artists like Adolphe Appia and Vsevolod Meyerhold been somehow absorbed and processed to give rise to a new conception of the stage space that combined the pictorial and the architectural, a stage where the image took on many functions and many dimensions in relation to the actor's body, no longer just a backdrop? To attempt to answer these questions, it is important to grasp the history behind the debate, the tradition that artists like Appia and Meyerhold fought against, and how film came and shuffled the deck with all its promise and potential. This history leads back to the invention of another image technology that left a determining mark on theatre design: perspective painting from the Renaissance.

From perspective painting to film screens, or the struggle against flatness

Renaissance heritage: from architecture to painting

In my experience I have found that it can be easy for young designers, when looking at the history of Western theatre design, to think that only in the twentieth century did theatre practitioners become concerned with the issue of how the actors' movements on stage related to or interacted with the space around them. The Russian Constructivists, the Italian Futurists, the Bauhaus school in Germany, these, amongst others, it is commonly believed, are the ones who gave the performing body all its importance and freed it from the stiffness it had standing in front of a painted flat, and by the same token freed these canvases from their own flatness. In the first twenty years of the twentieth century, the performing body became a plastic form with three-dimensional volume that

required a space it could embody in all its potential and depth. This shift came in part as a reaction against the long tradition of painted scenery that prevailed over the stage since the Renaissance, but looking back at how perspective came to be used in the theatre after 1435 demonstrates that at the time it was in fact used for its 'plasticity' in relation to the actor. Only later did the use of perspective illusionism become the impractical artifice it was at the end of the nineteenth century.

Before the Renaissance, it is hard to find any sustained efforts in developing scenic design;[26] there was always concern for creating illusion and elements of the spectacular, but there was no one visionary guiding how all of the visual elements would come together on stage.[27] With the invention of perspective in painting, there came the opportunity to create a complete illusion on the stage, to craft an entire world. With this "complete illusion" came the necessity to have one master illusionist: the stage designer (Simonson 264).

Because of the legacy of perspective illusionism in theatre it is easy to equate the work of these Renaissance designers to that of an easel painter, while in fact they were architects of great repute. The first textbook on scenic design was found in Sebastian

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[26] This reality is also inevitably tied to the history of theatre architecture in the sense that before the Renaissance there were few theatre buildings as we know them today. There were mainly temporary stages installed in market places, inn courtyards or royal courts. Of course, in the ancient Greek and Roman theatres there were permanent auditoriums, mostly outdoors, with integrated *skene*, the background building which was used for costume and property storage as well as for entrances and exits of the actors. The *skene* was at first a simple wooden structure, a temporary construction, but as the interest in setting and background grew, it evolved into a complex stone building (permanent) on which were connected the *periaktos*, painted revolving panels that could quickly change the scenery. The *periaktoi*, first mentioned in Vitruvius' *De Architectura*, is in fact the ancestor of Renaissance perspective scenery which used its basic principle and perfected it with more advanced engineering and perspective illusionism.

[27] All the varied aspects of the production were realised by specific trades people (carpenters, masons, metal workers, painters…).

Serlio's treatise on architecture (1537-1547);[28] in it he described the art of creating elaborate scenery for different types of plays. Each of these settings were to be constructed following the strict rules of scientific perspective with the buildings in the front smaller than those in the rear so as to not obstruct the vista, and at the rear the perspective was to be carried off by a painted backdrop (see fig. 1 and 2). The overall effect was one thoroughly architectural, with tilted roofs complete with chimney-pots, cornices, balconies and loggias through which you could see other buildings; even windows were to be made of glass or paper through which lights could be seen (Simonson 249-50). Serlio built his scenes "of laths covered with linen" and added projections of moldings and cornices in relief (Simonson 249-250). All this was done to achieve great realism with illusion, something that was not possible before the use of perspective. Though this new technique was discovered and developed for painting, on the stage it took on an unmistakably architectonic feel, and according to Lee Simonson this was deliberately done to create a world that related to the actor's physicality. It was not considered merely as a two-dimensional backdrop that would clash when an actor passed by it. These magnificent settings were described by critics of the time as "works of engineering rivaling nature" and were "so well done (…) that (…) no imitation of nature ever came so near reality" (Simonson 254, 259).

[28] According to Iain Mackintosh the first treatise dealing exclusively with theatre architecture dedicated to the design of the theatre auditorium not stage design, was published in 1676 by Fabrizio Carini Motta (26-27).

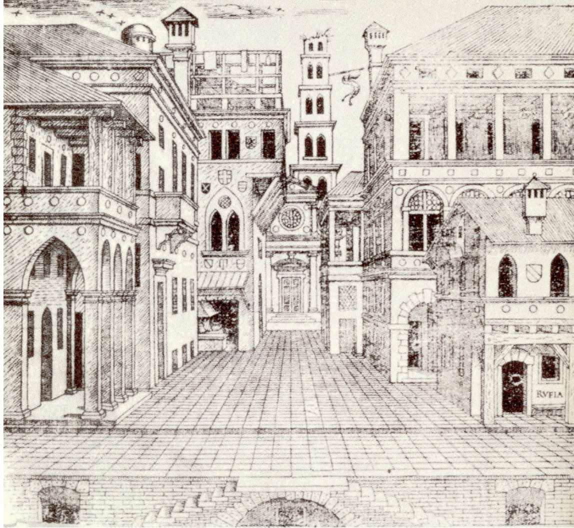

Fig. 1. Serlio drawing for a comedy (1545) Fig. 2. Model of same scene

It is not clear, however, how well the actors could actually inhabit these architectonic settings. In Fabrizio Carini Motta's treatise in 1676, there is an unequivocal distinction between the acting stage, which was to be in front of a separate scenic stage, and according to Iain Mackintosh this distinction was preserved for at least a hundred years: "The proposition that there should be a single stage, that the acting stage should occupy the same space at the scenic stage" was not introduced until much later (28). Nevertheless, the intention seemed to be to create illusonistic scenery that, through architectural structuring, corresponded to the actor's reality.

How is it that these originally architectural settings came to be the flat paintings that were so adamantly rejected by early twentieth century artists? Simonson in the *The Stage Is Set* (1964) describes how perspective illusionism lost its interest when theatres started choosing the cheaper and more spectacular option of purely painted, decorative flats.

When Torelli's system of counterweights[29] for fast and numerous scene changes made its way across Europe, what had been a careful and deliberate marriage of art and engineering, of painting and architecture, became a mechanical extravaganza. The architectural elements were therefore eliminated to allow for faster set changes, and the "original balance of architectural and painted forms" was lost (Simonson 266). The stages across Europe where this impressive system was imported were also much shallower than the original Italian ones, where the typical plan of a theatre had a stage space double the size of the auditorium.

> But once the average stage became so shallow that an actor moving twelve or fifteen paces up stage had the sky at his elbow, the entire structure on which the illusions of scene-painting were based collapsed and the very semblance of reality that mathematically determined perspective had been able to create became an obvious artifice. (Simonson 266)

Coincidently, in the eighteenth century, the notion of integrating the actor into the scenic picture started to evolve bringing a new "complete illusion" where everything, including the actor, appears behind a frame (Mackintosh 30).[30] "The actor, instead of being so brought forward, ought to be thrown back at a certain distance from the spectator's eye and stand

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[29] Giacomo Torelli (1608-1678) was a seminal set designer of the seventeenth century who innovated in stage machinery creating new techniques to effortlessly change sets in an instant, allowing not only for the stage flats and background to be changed but also the borders in the flies. In 1647 Torelli astonished the French court with this system that made possible multiple scene changes in one performance (Simonson 254).

[30] With the increasing popularity of the *scène à l'italienne*, the long-standing tradition of members of the audience, often important people, sitting directly on stage was forgotten in favor of the actor retreating behind the proscenium frame and the frontal positioning of the spectator (Mackintosh 20). In the nineteenth century, gas lighting was introduced over the stage and the auditorium providing even more favorable conditions for the actor to perform further upstage (Mackintosh 36).

within the scenery of the stage in order to make a part of that pleasing illusion for which all dramatic exhibitions are calculated" (qtd in Mackintosh 30).[31]

Regardless of its conflicting realities of the actor and painted scenery, the tradition of grand illusionism that started in the Renaissance persisted and was revived with remarkable artistic fervour by one who came to be known as the father of the modern stage: Richard Wagner. The Italian artists of the Renaissance had given us the 'complete illusion' with perspective and now in the nineteenth century Wagner would give us the 'complete artwork'. Wagner set out to renew traditional theatre, from dramaturgy to production, in order to bring theatre back to its humanist and poetic vocation, with roots in Greek drama, and away from the spectacular extravaganza it had become for a mainly distracted socialite crowd. For Wagner, the Greek festival was a 'total' artform because it addressed the whole public and produced social consciousness; it was not entertainment for the rich run like a well-oiled machine with its division of labour (Wagner 64).

Wagner believed the theatre needed to be born anew, and this rebirth he centered around the "word-tone poet", the ultimate artist who could communicate great truths and feelings through poetry set to music. It was music he articulated, that could "speak" the most profound truths because it needed no interpretation to reach the soul of the listener. To music he added words so as to appeal to the natural tendency to ask "why". Wagner believes that the poet "therefore drafts his poem in such a fashion that it may penetrate the finest fibers of the musical tissue, and the spoken thought entirely dissolve into feeling" (188). This formed the basis for his new drama. This pursuit to reach the inner feelings of his audience translated also in a mythical approach to subject matter. Such profound aims

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[31] Quote from Count Francesco Algarotti *Essay on the Opera* (1767).

needed the condensing and strengthening of time, space, motive and action to create "wonder" or "mythos". Only these types of dramas could reach across borders and touch the universal human being (Wagner 194). In his desire to instill the stage with such power, Wagner could not stop only at addressing the subject matter of his plays and their composition through music and poetry; he had also to address how these compositions would be staged since the present practices were inadequate.[32] He was the first in the modern era to challenge styles of acting and to attempt to define not only the approach to acting but also the whole visual aspect of his dramas in accordance with the composition of the music and text. This is perhaps Wagner's greatest lesson; that of the role of the director, the 'word-tone poet' turned master illusionist orchestrating all resources at hand to better convey a message or emotion. Contemporaneous production methods were inadequate and so Wagner initiated certain methods that paved the way for the use of projection screens, a technology that some today believe to be the ideal medium for Wagner's grand illusionist ambitions.

The production of a play became a whole no longer divided with its practically independent parts converging on stage at the moment of performance. Everything was orchestrated according to a larger, unifying goal: the unity of stage, action and performance through the rhythm of the entire piece. Wagner's artistic goal was the "utmost possible achievement of a sublime illusion" (Wagner 358), and this he strived to achieve by supervising every aspect of a production, even building a theatre, the Bayreuth *Festpielhaus*, to better suit his needs. In a speech given at the founding of this theatre in

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[32] "It surely also dawned on everyone that the redeeming German word, in the sense of the great master of tones, required another dwelling place than the Franco-Italian opera house, to become a concrete plastic deed" (Wagner 364).

May 1872, Wagner described his *Festpielhaus* as the ideal setting in which "(…) the mysterious entry of the music will prepare you for the unveiling and distinct portrayal of scenic pictures that seem to rise from out an ideal world of dreams (…)" (358). He was so taken by this all encompassing idea that he built his theatre according to a new layout that changed the audience's relation to the stage. As Mackintosh explains, "Wagner is venerated as the first to remove all of the distractions inherent in the multi-tier auditorium with the aim of concentrating attention on the stage picture contained within the proscenium arch" (41). The orchestra was hidden leaving a gulf between the audience and the stage, the lights in the auditorium were turned to darkness,[33] the seats were arranged for optimal viewing of the stage picture (Wagner 366), in a fan-shaped auditorium with only a single tier and a few boxes at the rear (Mackintosh 41). With Wagner's *Festpielhaus* the stage is set for all kinds of 'dreams' to appear, the stage is set for screens and moving pictures (see fig. 3).

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[33] Though he is recognised today as being the one who initiated the custumary darkening of the auditorium, Wagner was not in fact the first to do so. As early as 1550, the Jewish theatre director Leone de' Somi wrote in his *The Means of Theatrical Representation* about how he placed as fewest lights as possible in the auditorium, behind the spectators, so that they would not interfere with the view of the stage, which he lit brightly (Simonson 256). It appears Somi was also a forfather of stage lighting techniques later described and illustrated by Nicola Sabbattini in *The Practice of Making Scenes and Machines in Theatres* (1638) (Simonson 255-56).

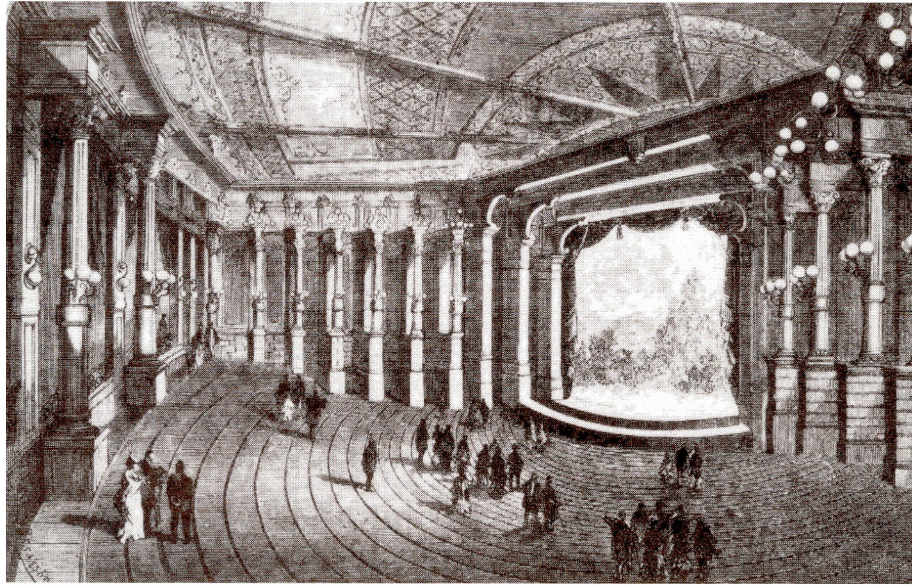

Fig. 3. Bayreuth *Festpielhaus* auditorium (1875)

From Wagner to Appia: from flats to space

Though Wagner was able to bring the theatre back to its mythical roots and give drama back its profound vocation, he did not go as far as a complete revolution of the stage. While he infused the visual aspects of the stage with a meaning and purpose they had lost in favour of spectacular entertainment, Wagner was not able to sever the ties to nineteenth century painted scenery; he was not able to give the stage designer the rhythmic freedom he had given the stage director. Wagner had gone part way, but it is Adolphe Appia who would complete the task of redefining the stage *space*. Appia discovered the possibilities of a truly rhythmic space that accomplishes what Wagner had only intuited: a stage on which all the elements work together towards the expression of the inner essence of the drama.

Appia used the impetus he found in Wagner's operas to develop a stage space that would be utterly theatrical instead of using merely blown up naturalistic paintings of fictive locales (see fig. 4). He saw that Wagner's "scenic descriptions in his libretto [had] no organic relationship with his poetic-musical text," and Appia set out with a clear slate to achieve "a technical unity in staging which would correlate with the presence of the work itself" (Beacham 16). He began by visualising settings which the music and necessary stage action inspired keeping in mind the central role of the performer as the intermediary between the drama and its realisation on stage. He grasped Wagner's lesson about the unity of time and space and applied it to the whole conception of staging so that each element became carefully balanced with the others according to one guiding force: the internal drama and rhythm of the work (Beacham 16). Appia reinterpreted Wagner's idea of the *Gesamtkunstwerk* and, instead of seeking a total artform that brought together many individual artforms (painting, music, poetry…), Appia searched for the roots of what makes

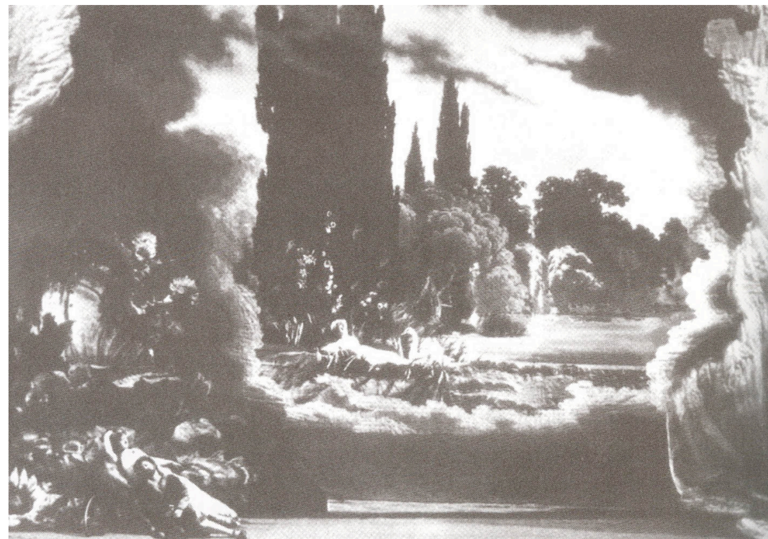

Fig. 4. Cosima Wagner's *Tannhäuser* (1891) illustrates the clash between the actors and the painted backgrounds.

the theatre an art in itself, and from there he built a unifying vision of all aspects of the *mise-en-scène*. Vsevolod Meyerhold, another leading avant-garde director who was inspired by Wagner's theories while adamently searching for new stage practices, also thought that Wagner's notion of a synthesis of the arts and the way in which he had tried to apply this notion to the stage did not work (Meyerhold 49). Both Appia and Meyerhold identified that what Wagner had neglected in his theories was the role of the body, of the living actor on stage as the main interpreter of the drama. They realised that the answer to the problem of scenic space lay in the actor's body and movements.

Appia and Meyerhold both identified the inherent paradox in their contemporary theatre that placed the plastic body of the actor up against a painted backdrop. They saw the glaring discrepancy between the flatness of the painting and the sculptural human body, the immobility of the represented world, the artificiality of its painted lights and shadows, and the reality of the live body and its expressive movement. But if the actor was going to fill the role of a truly expressive medium for the new drama, then the stage would have to provide the appropriate setting to do so. In 1921, Appia wrote:

> (…) [The] actor represents the three dimensions, he is plastic and so he occupies, accordingly, a fragment of space upon which he imposes his form. But the actor is not a statue; being plastic, he is also alive, and his life is expressed by movement; he occupies space not only by his volume, but also by his movement. His body, alone in unlimited space, measures that space by means of gestures and movements (…). (Appia, *Essays* 199)

This was written after his fruitful collaboration with Émile Jacques-Dalcroze,[34] a Swiss composer, musician and music educator, with whom he experimented with what they called Eurythmitics: “experiments on the relation between man’s physical body and what might be called the rhythm of his inner being” (Appia, *Living Art* xv). Through these experiments and with his own theories on space, Appia developed what he called the “Work of Living Art”.

Appia’s greatest contribution in addition to redefining the role of the actor in relation to the work of the designer was the importance he gave to light as an expressive medium that is specifically proper to the stage.[35] Light, he discovered, has a plasticity akin to that of the body and it can enhance the body’s gestures and unite it with its surroundings. Appia “demonstrated in detail, both as a theorist and as a craftsman, how stage lighting could be used and controlled so as to establish a completely three-dimensional world on stage” (Appia, *Music* xi). With lighting, Appia was able to achieve two of his main objectives: “to emphasise the living and expressive quality of the human body in rhythmic movement in

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[34] Dalcroze first developed Eurythmitics as a method for teaching the appreciation of music through movement. He collaborated with Appia from 1906 to 1916, notably at the Hellerau Institute, a school dedicated to the teaching of his technique and exhibition presentations of “a new scenic art” that combined the expressive movement of Eurythmitics with Appia’s “rhythmic spaces” (Beacham 81). It was at Hellerau with Dalcroze, in their innovative studio, that Appia was able to put into practice his earlier theories about the body, how it related to space, and about the expressive properties of lighting (Beacham 83-94).

[35] Appia learned many of his lighting techniques from Hugo Bähr, a German engineer and pioneer in electric light who is often referred to as “the father of stage lighting” and who developed and used a variety of carbon-arc devices, projections and other lighting effects (Beacham 12). Appia also collaborated with another lighting engineer at Hellerau, Alexander von Salzmann, with whom he created a system of some 7000 diffused lights around the entire performing and audience space in combination with spotlights above the acting space, generating the effect of “a light producing space” (Beacham 94). Appia and Salzmann also invented the lighting console, which they called “light organ” (Beacham 94).

space” and “to break down the barriers, which, traditionally, had governed and restricted the spectators’ appreciation of the work of art in performance” (Beacham 94). Light can communicate to the eyes what the music expresses to the ears in a way that static paintings never could.

But “light requires an object if it is to retain its expressiveness; it must light something, and encounter obstacles” (Appia, *Living Art* 66). And thus he created architecturally based settings that not only served as a ground and counterpoint for the actor’s movements in space but that could also be transformed by the color and texture of lighting (see fig. 5). As such the properties that once belonged to painted scenery are now infused with mobility and projected into three-dimensional space: “it is no longer static

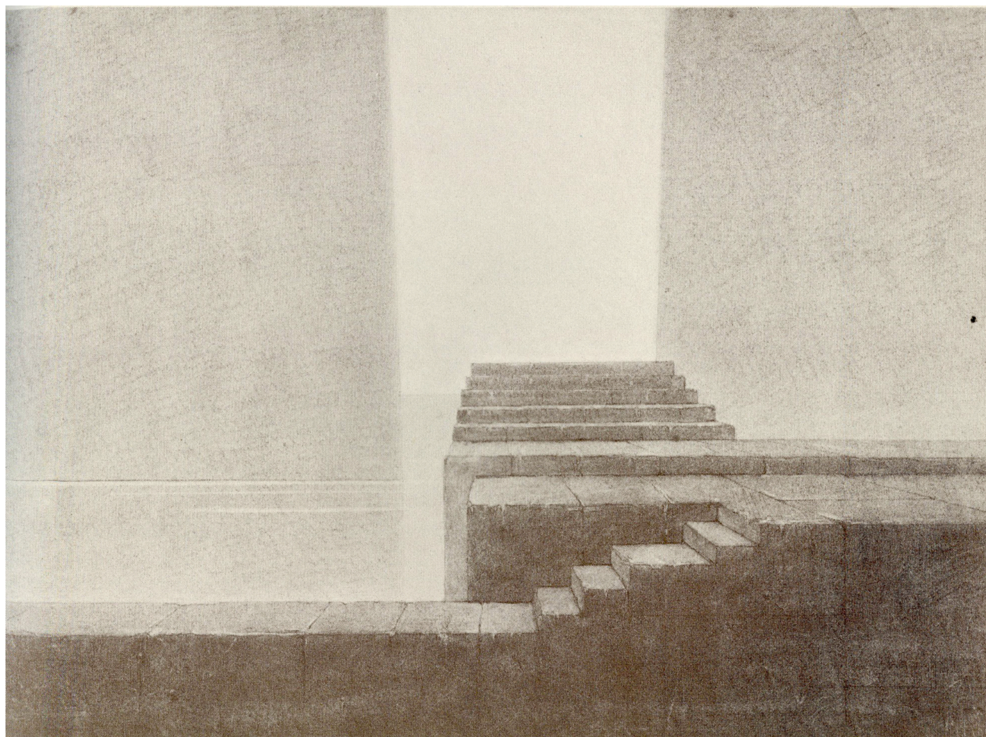

Fig. 5. Appia’s rhythmic space, *L’Escalier,* 1909

colors which represent light, but light which takes from color all that opposes its mobility" (Appia, *Living Art* 81). With color, Appia's lighting can now modify objects and "has the power to create an environment on stage, and even to create objects by means of projection" (Appia, *Living Art* 82). Already in Appia's work we see the beginning of a definition of space that includes the notion of projection as a sculptural tool to create mood and atmosphere. Only his screen is not a flat one as the cinema screen or the perspective canvas, it is the entire stage with its platforms, stairs, walls, ramps, its entire architectonic space. Interestingly Appia himself did not fully see the possibilities of the moving image projected on stage. His use of lighting is a preliminary step in the direction of what artists like Josef Svoboda would accomplish with modern projection techniques, and though he mentions the use of "images and of designs" in combination with light projection, Appia does not consider the moving image born from the cinema as an appropriate tool for the stage.

Appia says that "[the] human body makes painted forms and painted light irrelevant on the stage" (Appia, *Living Art* 10), but what if the forms and light can move in space just as the actor does? In 1921, Appia thought that "[a] painting that [forces] us to board a train in order to follow it out into space is unthinkable" (Appia, *Living Art* 15), but is that not what the Lumière brothers did with their early cinema? And yet Appia also writes that "[projection] (…) [should take] an active role on the stage" and that "it must include the most striking images" (Beacham 32). He even predicted in 1891 that the only acceptable

solution to staging Wagner's flight of the Walkyries would be the use of "electric photography" in a series of quasi-simultaneous projections (Beacham 33).[36]

Meyerhold, who along with Appia was a fervent defender of rediscovering the plasticity of space through the actor's body, also first considered film to be antagonistic to the stage. In 1912, he wrote "there is no place for the cinematograph in the world of art, even in a purely auxiliary capacity" (Meyerhold 134). Meyerhold considered the cinema to be the product of naturalism, of scientific demonstration, or journalistic methods, which therefore had no place in theatre that was in the midst of battling its way out of a photographic representation of life. Yet not a decade later while working in collaboration with Sergei Eisenstein, best known for his work in film, Meyerhold explored staging techniques akin to those of the *montage* in cinema and embarked on what he himself would call a 'cinefication of the stage'.

For his part, Robert Edmond Jones, an American scenic designer credited for bringing the new European stagecraft to American drama, always believed cinema was the 'theatre of the future'. As opposed to photography or painting, which Jones described as pictures, tangible and objective, he said motion pictures are images, "subjective - disembodied, evanescent - appearing out of nothingness, vanishing into nothingness, a thought, a memory, a dream (…)" (Jones, *Towards a New Theatre* 27). And this new image, Jones said, should be used in the service of the new drama that began with Wagner and would continue with Constructivist and Futurist influences, a non-realistic drama that expressed both the external realities of the lived world and the internal workings

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[36] Something that Robert Lepage will realise in an upcoming production of the complete *Ring Cycle* for the Metropolitan Opera in New York. See chapter three.

of the mind. All these artists spanned the initial years of film and witnessed first hand how cinema quickly made its way onto the stage; although they might have had conflicting opinions on the fusion of the two art forms, they eventually would become pivotal figures in the inevitable cinefication of the stage.

From the 'living art' to the 'cinefication of the stage': the return to flatness?

Today the use of moving images in theatrical performances is widespread and varied, and film (or video) is now considered an accessible and common tool used for dramaturgical and/or scenographic purposes. To better understand how we went from struggling to establish a new three-dimensional space defined by the performer's body to a stage re-inhabited by flat surfaces,[37] it is important to consider how this combination of two, sometimes quite distinct artforms, started. The emergence of modern film practices was intricately woven with and practically inseparable from the revolution in stagecraft at the beginning of the twentieth century. Some of the earliest filmmakers, like Georges Méliès (1861-1938), came from the world of stage entertainment and indeed started making filmed sequences of actions occurring on a stage, in a theatrical setting, while exploiting the 'magical' possibilities of the camera. Others, like the Lumière Brothers in France and Thomas Alva Edison in the United States, took the camera into the streets to capture on film the movements of exterior reality. These two film practices have, ever since then, been

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[37] Today, there are a variety of surfaces used for projections, including organic substances like water or smoke, but at the time of the appearance of film on stage the projection surfaces were mainly flat screens. There were exceptions where more malleable or translucent materials such as scrim were used to various effects. However, I maintain that to this day the occasions where we might see projections on truly sculptural or structural surfaces are few and far between, and that most performances that put substantial consideration into experimenting with depth and volume not only in the image but also in the projection surface remain rare and are found usually in more experimental contexts such as gallery exhibitions and performative installations.

combined in varying degrees to create sometimes indistinguishable representations of reality and fiction, fact and illusion.

The stage has also always been invested in the representation of the shifting relation between realism and illusionism, as with Renaissance perspective and Wagnerian stage magic. On one hand stage practitioners have tried to portray the experience of life with whatever techniques of verisimilitude were available and according to whatever aspects of human experience were perceived as vital at any given time; on the other hand theatre artists have developed all kinds of devices and tricks to create experiences that were never possible in reality. It is no surprise then that these two artforms with such similar aims yet distinct means, theatre and cinema, would meet early on and develop a subtle relationship of mutual influence. In the formative years of film, approximately 1900 to the 1930s, writings from film and theatre theorists and practitioners show a constant pendular motion between the influence of live performance on cinema and vice versa. The dramaturgical and scenographic methods, intimately tied to the aesthetics of film, that avant-garde theatre artists of the early twentieth century developed remain as valid as they were almost a hundred years ago. And it is important to review this history to understand both the legacy of film in theatre and how this legacy can be reconsidered to re-imagine the ubiquitous presence of screens today.

Film and stage the early years: interconnections between 1887-1920's

When cinema was born it was not immediately a form of entertainment in its own

right. It was a curiosity, a modern marvel that mixed science and magic; an ‘attraction’[38] that appeared at various scientific conventions, popular exhibitions and fairgrounds. It was developed from the combined evolution of two very old principles: the production of an image originated by the *camera obscura* later captured on a photosensitive surface[39] and the perception of movement based on the theory of ‘persistence of vision’,[40] later used to create animated motion pictures.[41] These two basic principles, used by scientists to create technologies of image production and viewing since the sixteenth century, provided the groundwork for the invention of numerous cinematographic devices (Raimondo-Suto 3-4). Once Étienne-Jules Marey built his Chronophotograph in 1887-88 to capture successive photographic images of movement (see fig. 6), it was only a matter of time before Thomas A. Edison[42] in the United States and the Lumière brothers in France[43] created an improved device capable of filming these movements in real-time in continuous and smooth motion.

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[38] The term ‘cinema of attractions’ is from Tom Gunning’s article “The Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde” in which he describes early films (before 1906) as based on the attractive quality of the image, the power of making images seen through a series of ‘attractions’.

[39] In 1826-27 Joseph Niepce and Louis Daguerre succeeded in making the first permanent photographic image on a pewter plate.

[40] In 1765 Abbé Jean-Antoine Nollet was one of the first to use this principle to create drawn ‘animations’, toys with different images that changed size and shape when rotated (Raimondo-Suto 4).

[41] In 1877 Émile Reynaud invented the Praxinoscope that incorporated a mirrored prism to Nollet’s mechanism in order to send the images to the viewer (Raimondo-Suto 4).

[42] In 1889 Thomas A. Edison visited the Paris Exhibition where Étienne-Jules Marey presented to him the Chronophotograph (Raimondo-Suto 4).

[43] Between 1893 and 1896 there were many other international inventors who developed various cinematographic devices: Robert W. Paul in England, Max and Emil Skladanowsky in Germany and Filoteo Alberini in Italy (see Rossell 119-140). Nevertheless the Lumière brothers and Edison remain the most renowned.

In December 1895 the Lumière brothers held the first successful paid showing of their Cinematographe at the Grand Café in Paris (see fig. 7). They projected on a screen ten short films to great acclaim in front of a paying audience of about one hundred spectators, among whom were many directors of Paris theatres.

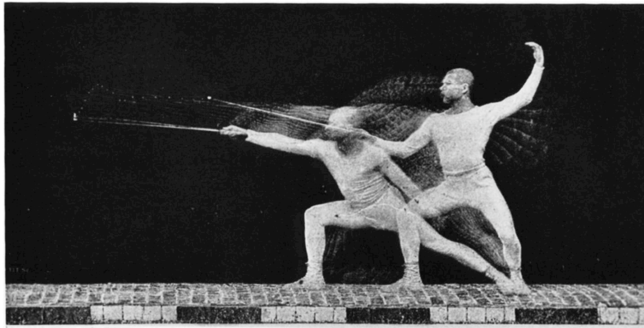

Fig. 6. Chronophotograph image by Marey (1885-90)

Fig. 7. Still frame from the Lumière film *La sortie des usines*

These fifteen minute screenings quickly became sought after entertainment, but they were very different from the narrative based cinema that evolved after 1907. In many ways they resembled, in content, form and in presentation methods, the arts of the stage. As Tom Gunning insightfully explains in his articles on early cinema (1900-1906) there was no intention of creating narrative logic or diegetic realism by either the filmmakers or the film exhibitors. Gunning places these films in the same context as the modern stagecraft techniques of illusions and *trompe l'oeil* painting in the magical theatre of the late nineteenth century. This context is one in which a decline in the belief in the marvelous and rationalist attitudes towards experience meant an audience that was seeking to confound its expectations of logic and experience (Gunning, "An Aesthetic of Astonishment" 33). "The magic theatre laboured to make visual that which was impossible to believe. Its visual power consisted of a *trompe l'oeil* play of give and take, an obsessive desire to test the

limits of an intellectual disavowal – I know, but yet I see" (Gunning, "An Aesthetic of Astonishment" 33). As such early cinema became the crowning achievement in sophisticated developments in the theatre, which show that "rather than being a simple reality effect, the illusionistic arts of the nineteenth century cannily exploited their unbelievable nature, keeping a conscious focus on the fact that they were only illusions" (Gunning, "An Aesthetic of Astonishment" 34). The films by Georges Méliès serve as a great example of this close relation between early cinema and the arts of the stage (see fig. 8 and 9). In fact before making films, Méliès ran a very successful theatre of illusions at the Théâtre Robert Houdin where he used the latest technologies to produce apparent miracles. Naturally when he discovered the Lumière Cinematographe he immediately saw the potential to experiment with new tricks to deceive the eyes of his audience. He called his films "artificially arranged scenes" (The Movies Begin, vol. 4) in which he reproduced

Fig. 8. Still from Méliès' *A Trip to the Moon* (1902)

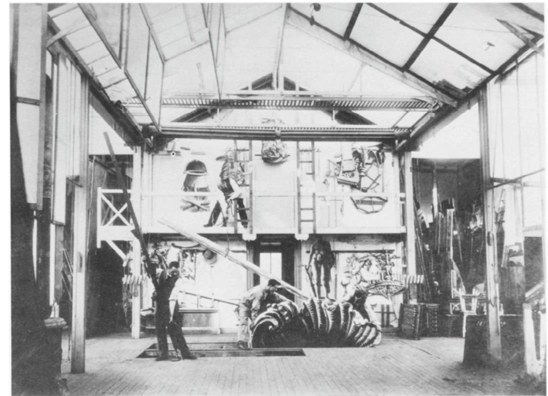

Fig. 9. Méliès' studio workshop for building sets and filming

theatrical scenes but in a fantastic way not possible on stage.[44]

But even with the visual ‘realism’ of the Lumière films, and other films of this period, there were important external and internal elements that showed their attachment to the arts of the stage. As Gunning reminds us these short films were presented in the context of a larger performative event not centered on a progressing narrative, but rather on a series of activities. As the cinema was a “series of transformations strung together with little connection and certainly no characterization,” whatever ‘story’ there was only provided “a frame upon which to string a demonstration of the magical possibilities of the cinema” (Gunning, “Cinema of Attractions” 58), and this was reflected in the modes of exhibition. The exhibitors had control over the shows adding all kinds of off-screen supplements such as sounds effects, live music, and spoken commentary; they could even re-edit the films to better suit their program. Gunning gives the example of a Hale’s Tours show (in America)[45] in which the spectators were seated in a theatre arranged as a train car, watching projected moving images taken from a train, complete with a conductor who took tickets from the ‘passengers’ (Gunning, “Cinema of Attractions” 58)! This type of show is far from the movie-going experience we are used to today[46] and much closer to popular attractions

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[44] For an interesting outlook on staged and filmed motion at the turn of the twentieth century, see Joseph A. Sokalski, “The Application of Staged Motion” (2003). The author uses Méliès’ films to show how “ [the] technology of the nineteenth century pictorial theatre’s ‘staged motion’ meets the emerging technology of twentieth century cinema’s ‘staged motion’, and for a few moments one can recognize the bridging motion from one medium of movement to the next” (Sokalski 49).

[45] Based on the combined experiments of H. G. Wells, novelist, and Robert Paul, British film pioneer, to create a simulation of time travel (Fielding 34).

[46] Our movie-going experience is the fruit of the narrativisation of cinema, a result of attacks by reform groups on the ‘unhealthy’ aspects of vaudeville films, which took place from 1907 to 1913 culminating in the feature film as we know it. Interestingly, this shift meant films turned to the ‘legitimate’ theatre as their model “producing famous players in famous plays” (Gunning, “Cinema of Attractions” 60).

at fairgrounds and vaudeville or variety shows.[47] Other internal elements of early cinema betray the performative context in which these were shown. In many Méliès films for example we see a series of tricks and magical attractions of a purely cinematic nature (impossible to reproduce 'live') that address the audience in exactly the same way that a live magic performance did. The master of ceremonies presents numbers as if he were standing on a stage in front of an audience using exaggerated gestures instead of words to explain the next trick, only the trick in question is not produced live but as a result of editing and camera manipulation. For example in *The Black Imp* (1905) the furniture moves on its own and multiplies to the dismay of the newly arrived 'visitor', a result achieved by stopping the camera and repositioning the furniture; or, as in *Long Distance Wireless Photography* (1908), a 'magical' photographic device instantly reproduces a moving close-up image of an old man's face only to grotesquely transform it into the face of a monkey, a humorous effect achieved by superimposing two films. These were basically 'attractions' to be displayed, a 'monstration'[48] rather than a narration based on the act of showing and exhibition.

Though the connection between the birth and evolution of film in its early years and the arts of the stage is clearly illustrated by looking not only at the context in which they were shown but also by watching the films themselves, it is not until approximately fifteen years later that artists in the theatre started seriously working with film in the context of a

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[47] At this time, these live performances were not considered as 'legitimate' theatre but as popular entertainments that had little to do with the serious artistic aims of literary theatre. However later on these popular stage arts became the basis for a complete renewal of the 'legitimate' stage.

[48] This term is from Wanda Straven's *The Cinema of Attractions Reloaded*, p. 17.

play.[49] It is important to make a distinction here between the arts of the stage in the form of circus, cabaret, vaudeville or variety shows and the theatre of the avant-garde of the twenties and thirties which strived to redefine theatre, to offer an alternative to the traditional literary theatre steeped in bourgeois naturalism that had little to do with the social and political context that these avant-garde artists were trying to address. The two are, however, not without a connection. In fact the attractions of all the popular entertainments, including film, were a great source of inspiration for the Futurists, for Sergei Eisenstein, for Meyerhold and Erwin Piscator, a German director who was a central figure in innovating multimedia practices; they saw in these shows an exhibitionist confrontation of the spectator, a liberation of popular entertainments, and they used this stimulus for radical purposes (Gunning, "Cinema of Attractions" 60).

Provoking the audience: the example of early cinema

Much of the search for a new dramaturgy[50] in the twenties and thirties was propelled by the hope of stirring the audience out of the comfort of their seats, either to inspire them with political fervour or, like Wagner had intended, to bring the theatre back to its communal roots. The social function of the theatre was bound to change when social orders changed. The revolutionary artists mentioned above recognised that the technical

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[49] It is difficult to pin point the first use of film in the context of a play. In his book on Josef Svoboda, Denis Bablet quotes Georges Sadoul who says that "the combination of theatre and cinema [has been] attempted since 1898" (Bablet 179); in Innes' book there is a footnote claming film was used on stage before the first World War in the French farce *A million* in which the action on stage was interrupted and continued on screen (Innes 17). These are the earliest references I have found in regards to the presence of film within a play, or 'legitimate' theatre, though they remain to be verified.

[50] These dramaturgical changes include the renewal of *mise-en-scène* techniques and of the role of the actor, which we will see in further detail in chapter two.

side of a theatrical presentation, like its dramatic form, is rooted in the social form of the epoch and so the form of the court theatre with its division between orchestra and auditorium, itself divided in ranks, came into conflict with the communist reforms underway (Piscator, *Political Theatre* 180). In order to radically change the theatre and appeal to a different audience in a different manner, theatre artists of the twenties and thirties needed an element of shock and provocation, for this they turned in part towards variety theatre and cinema of the turn of the century. Gunning describes the Futurists' attraction to variety theatre by paraphrasing Marinetti who

> not only praised its aesthetics of astonishment and stimulation, but particularly its creation of a new spectator who contrasts with the 'static' 'stupid voyeur' of traditional theatre. The spectator at the variety theatre feels directly addressed by the spectacle and joins in, singing along, heckling the comedians. (Gunning, "Cinema of Attractions" 59)

According to Gunning, in the early approach to film making, "[theatrical] display dominates over narrative absorption, emphasizing the direct stimulation of shock or surprise . . . its energy moves outward towards an acknowledged spectator" ("Cinema of Attractions" 59). The 'cinema of attractions' based itself on displaying its visibility, on its ability to make images seen, constructing a different *relationship with the spectator*. "Confrontation rules the cinema of attractions both in the form of its films and their mode of exhibition. The directness of this act of display allows an emphasis on the thrill itself – the immediate reaction of the viewer" (Gunning, "Aesthetic of Astonishment" 37). The avant-garde theatre directors were particularly interested in the way the spectator of early cinema is forced to remain aware of the art of looking and its total opposition to the naturalistic theatre's 'fourth

wall' which makes no acknowledgement of the beholder's presence (Gunning, "Aesthetic of Astonishment" 38).

Piscator and Eisenstein wanted to break down this fourth wall because of the association with bourgeois theatre; they wanted a theatre that represented the masses and was addressed to them, and this meant bringing the revolution from the streets into the theatre, bringing the state of crisis and excitement into the auditorium.[51] One way of doing that was to use every modern means of communication that the people could understand, identify with and respond to, including film. For Piscator, this was a utilitarian theatre that was closely involved in everyday events, immediately relevant and of practical use to inform the audience and exert direct influence on their actions (Innes 51).[52] He found great potential in film for these purposes; Piscator realised that "the compression, the immediacy and the objective impression of film could be used to activate an audience" (Innes 81). He aimed for a theatre that "was no longer trying to appeal to the audience's emotions alone, was no longer speculating on their emotional responsiveness" but one that "consciously appealed to their intellect" providing not only "élan, enthusiasm, rapture, but enlightenment, knowledge and clarity" (Piscator, *Political Theatre* 49).

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[51] This method of presentation also points to the need for thrills in an industrialised and consumer-oriented society. According to Gunning this emphasis on shock and thrills is the sign of a "spectator whose daily experience has lost the coherence and immediacy traditionally attributed to reality" ("Aesthetic of Astonishment" 41).

[52] Although Piscator's politics later evolved from strictly Communist propaganda to come closer to the Greek's use of politics in the social sense making the stage a moral institution (Innes 63), he continued to use these techniques to analyse the complexities of society.

Meyerhold's 'cinefication of the stage': a new theatre for a new audience

This initial intent to produce an immediate reaction from the audience is one way in which early film techniques were used in theatre to revitalise the legitimate stage, but the complete cinefication of the stage was much more widespread and complex than political provocation; it affected not only the viewing relationships but the construction of narrative and the approach to acting methods, and of course it involved the use of film projections on stage in combination with live action. In 1910 Meyerhold established the Interlude House where he began to experiment with episodic structures not based on narrative but more closely related to the form of a revue and later to cinematic montage; this was the beginning of his 'cinefication of the stage' (Meyerhold 114). In 1920 Sergei Eisenstein, who studied and worked with Meyerhold in the preceding years, directed *The Mexican*, a play he claims was his first experiment towards his 'montage of attractions' developed for his work in film after his initial exploration in theatre. In this play Eisenstein brought actual events into the theatre; he brought a boxing ring into the middle of the audience and recreated a boxing match 'live' instead of showing only reactive gestures to a pretence match occurring backstage. This bravura brought a new "materialistic element in theatre" (Eisenstein 7). The audience was directly excited, not through purely theatrical elements like intonation, gesture and mimicry, but through the events occurring before them. And traditional illusionary scenery gave way to a 'real' ring (Eisenstein 7).

In 1925 Piscator directed *Despite All!* in which he constructed a sequential story using a montage of scenes and film sequences projected on screens behind the actors to show documentary material in support of the action on stage (see fig. 10). It was used to illustrate the political and social background of the play, to relate the micro to macro.

According to Piscator, it was the first time film was organically combined with live action;[53] from this play on Piscator started using film to substitute acted scenes entirely. These examples show how cinema's early history is inextricably linked first to the late nineteenth century popular entertainment industry and later to the Futurist and Communist avant-garde theatre. There is no doubt then that the new possibilities offered by the film camera influenced the development of theatre, and also in reverse, that the narrative methods explored in the theatre determined the development of cinema's editing techniques. Eisenstein, who is considered one of the progenitors of modern editing, says that his methods and theories on film evolved out of his work in the theatre.[54]

Fig. 10. Film and projections from *Despite All!* (1925)

Along with the intent to redirect the audience's attention, to relate the stage to the social and political reality of the time, the new 'materiality' brought by film also allowed for a new 'realism'. The notion of 'realism' in theatre, that which makes us believe in the imagined world on stage, is a thread that can be traced back all the way to Renaissance perspective as detailed previously, but it has shifted and changed guises many times since

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[53] Piscator admits that the Russians were using film in a similar fashion, and many thought that he got the idea from them, but in fact he "was quite ignorant of what was happening on the Soviet stage at this time – very little news about performances and so on came through to [Germany]. Even afterwards [he] never heard that the Russians had employed film with the same function [he] had in mind" (Piscator, *Political Theatre* 93).

[54] See Sergei Eisenstein "Through Theatre to Cinema" (1934).

then. During the Renaissance it was based on the scientific laws of perspective that tricked the audience into thinking that what they were seeing on stage was a true representation of the way their eyes saw the outside world.[55] With Wagner the desire for realism takes on the guise of romanticism; the objective is no longer an engineering feat but the production of a mystical world so well represented that the audience would be completely enthralled by the illusion. Realism will shift once again with the appearance of the cinematograph on stage, finding a new way of compelling the imagination of the modern, industrial mind. The pursuit of realism is no longer about the faithful recreation of locations and environments to situate the action, but more about the representation of a modern sensibility and understanding of society.

Among others, Brecht and Piscator were proponents of using filmic techniques in their 'epic theatre' to redefine naturalism on the stage.[56]

> Like the pictures in a film, epic theatre moves in spurts. Its basic form is that of the shock with which the single, well-defined situations of the play collide. The songs, the captions, the lifeless conventions set off one situation from another. This brings about intervals which, if anything, impair the illusion of

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[55] According to Anne Freidberg however, "linear perspective was a technique for reproducing the space of what was seen on the *virtual* plane of representation," not necessarily a faithful illustration of reality (Freidberg 35).

[56] Naturalism also changed meaning in theatre from the end of the nineteenth century through the twentieth century. At the turn of the twentieth century, naturalism was associated with an excessively detailed account of life situations, influenced by a literary movement headed by authors like Émile Zola, with the intention of scientifically observing the underlying forces behind actions. With the avant-garde artists of the twenties and thirties, the fourth-wall convention along with the artificial stage design practices, previously considered naturalistic, were broken-down in favor of a naturalism that provoked the audience to take a critical stance towards the performance. Nineteenth century naturalism was the opposite of romanticism, but both can be considered realistic in their illusionistic aims of representation on stage.

> the audience and paralyse its readiness for empathy. These intervals are reserved for the spectator's critical reaction – . . . . (Benjamin, "Epic Theatre" 153)

In this light, it is important to reposition Eisenstein's theory of montage of attractions; he was in fact looking for a scientific approach to art. In his memoirs he wrote about his quest as follows:

> Let us thus go in search for a unit that will measure the influence of art. Science has its "ions", its "electron", its "neutrons".
>
> Art will have – its "attractions"!
>
> From the production processes, a technical term has become part of everyday language, designating assemblages in terms of machines, water, canalizations, machine tools, the beautiful word 'montage', that designates an assemblage (…)
>
> This is how the term "montage of attractions" was born- (qtd in Straven 19)[57]

This emphasis on scientific approach on one hand and critical thought from the audience on the other is emblematic of a new kind of naturalism that evolved out of the political awareness of avant-garde theatre artists in the twenties. Piscator's work is exemplary of this redefinition of realism, particularly because of his use of film on stage. "Backed by exposed and elaborate machinery [film] acted as a correlative for the modern context as

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[57] Quote from Eisenstein, "Comment je suis devenu réalisateur" *Memoires* translated by Jacques Aumont, 177.

well as gaining a new level of authenticity" (Innes 4). Along with his political motivations, Piscator used film as an impetus to redefine other elements of performance and to set new standards of precision, actuality and impersonality for sound effects, movements, scenery and particularly speech (Innes 4). Unsatisfied with the realistic techniques of traditional naturalism[58] that concentrated on achieving a complete illusion focused on the veneer of appearances, which could not handle or compete with real modern crises, he searched for a new mode of representation true to contemporary experience and able to analyse the complexities of society.[59] For Piscator this was the new socio-political role of the theatre: "Pure art is not possible in the present times. But the art which consciously serves a political cause, as long as it never compromises, will ultimately reveal itself as the only one possible and so as the pure art of our time"[60] (qtd in Innes 62-63).

Film had a great part to play in this politicised art form; it was presumed to act as immediate and objective documentation. Piscator used this particular penetration of art and science found in film to eliminate any sense of mysticism from the stage. Even when he broached universal subjects and sweeping epics he used detailed documentation, stage machinery and film to anchor the subject in present-time actuality, or to illustrate factual contradictions between personal illusions of characters and the true nature of events. In *Hoopla, Such Is Life!* (1927) Piscator used the projection screen to illuminate characters

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[58] The naturalism of the end of the nineteenth century.

[59] Although Piscator's work demonstrates a very different expression of naturalism than the literary naturalism of the Stanislavski-style stage, he does not dispute his roots in the previous century when literature and the proletariat came together to put forth a realistic portrayal of the conditions of the masses; however this kind of theatre was not revolutionary in its aim, only descriptive (Piscator, *Political Theatre* 30-33).

[60] Quote from Piscator, program of *Hoppla, wir leben!* Piscator-Bühne (1927), 3.

and their actions from standpoints independent of the play. There were eight separate spaces for film or action as well as a stage area outside the main structure that was covered by gauze in front while a backcloth acted as a screen with ‘doors’ for actor entrances and exits – both could be used for projections (see fig. 11). Thus different groups of characters could be presented in their ‘box’ with a visual commentary while the main action was occurring elsewhere, creating critical parallels for a heightened sense of reality. The film sequences also revealed details passed over in the speeches. This juxtaposition of events separated historically and geographically with the actions on stage drew relationships between single men and social forces, and Piscator claimed it to be the visible sign of a dialectic thought process (Innes 102). This is how Piscator’s concept of an epic treatment of events evolved, as a dialectic and didactic method that shed light on current or past events or on certain aspects of society, and this was what defined the new ‘realism’. The primary emphasis was on the efficient transmission of information or material and thus the use of optical ‘attractions’, including film, was the main aesthetic concern.

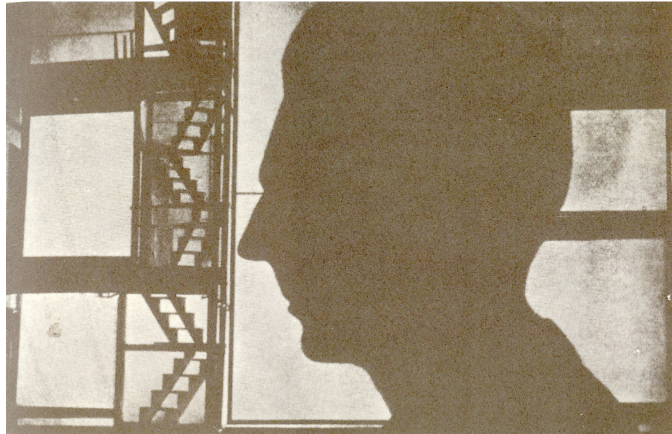

Fig. 11. Three-story stage with translucent back-drop for *Hoppla! Such Is Life* (1927)

With this anti-literary production style based on montage and machinery, he also proposed to involve the audience by appealing directly to their senses. This way “[the] public feels that it has been given a look at real life, that it has been watching a piece of real life and not a piece of theatre . . . that the spectator is involved in the play, that everything

that is going on on the stage concerns him" (qtd in Piscator, *Political Theatre* 54).[61] When staging his agit-prop plays in non-theatrical venues such as beer halls or meeting rooms, Piscator realised that reality and the play often merged together, blurring the divide between the two. He later staged plays in more traditional venues but maintained the principle of "a continuation of the play beyond the dramatic framework," and thus the spectacle play developed into a didactic play, which "automatically led to the use of stage techniques from areas which had never been seen in the theatre before" (Piscator, *Political Theatre* 75). Like Eisenstein, he contributed to the emergence of a theatre based on the philosophy of historical materialism:

> . . . [what] do I consider the essential part of my whole work? Not the propagation of a view of life through formal clichés and billboard slogans, but the presentation of solid proof that our philosophy and all that can be deduced from it is the one and only valid approach for our time. . . . Conclusive proof can be based only on scientific analysis of the material. This I can only do, in the language of the stage, if I can get beyond scenes from life, beyond the purely individual aspect of the characters and the fortuitous nature of their fates. And the way to do this is to show the link between events on the stage and the great forces active in history. . . . For this I need some means of showing how human-superhuman factors interact with classes or individuals. One of the means is film. (Piscator, *Political Theatre* 93-94)

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[61] Quote from Rote Fahne, review of Jung's *Kanakans*, April 12 1921.

From documentary realism to sensory naturalism: the American avant-garde and the deconstruction of the image

This new kind of realism, a technologically rendered form of social consciousness-raising, gave birth to a type of Documentary Drama that passed to the United States through the work of the 'Living Newspaper'.[62] It is in the United States, in the sixties and seventies, that yet another shift occurred in the approach to naturalism on stage, notably in the work of American avant-garde performance artists. Indeed, during these decades in the United States the boundary-breaking possibilities of film were rediscovered in avant-garde work that once again strove to push the limits of what could be seen on stage and how it could relate to its audience. Like Piscator the American artists were interested in using all the means at their disposal to create a new stage experience that would awaken audiences to a different sense of reality. Although the socio-political context was different, these artists found themselves in an ideological and aesthetic crisis fed by an increasingly consumerist society bombarded by media of all kinds. They embarked on a search for an art form that "formally . . . recreates all the visual diversity and discontinuity of [American] culture" (Kostelanetz 29).

As Meyerhold, Eisenstein and Piscator had done twenty or thirty years earlier, these artists turned to sub-artistic or 'popular' culture (Kostelanetz 28) finding inspiration not only in the fringe entertainment arts of the beginning of the century (vaudeville, circus and music

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[62] The Living Newspaper project was put in place by the Federal Theatre Project in the 1930s in order to give employment to journalists and theatre artists that were affected by the depression. The Living Newspaper performances centered on current events or issues that affected the American working class, using techniques inspired by European agit-prop plays and Communist avant-garde performances including experimental dramaturgy and stage design, the use of film and still projections, sound effects and musical scores, shadow-play, puppetry and pantomime.

hall, et cetera) but also in the experimental activities of the Dadaists, the Surrealists and the Bauhaus. They used similar audience inclusive performance methods and non-linear sequences of scenes to provoke the spectators, and like Piscator, who used all the latest technologies to revitalise the stage, so the American avant-garde artists of the sixties and seventies used the technologies they had at hand to create new experiences, including film but also video, television, radio, live broadcast and so on. After returning from Europe where he witnessed the experimental work being done in theatres, Robert E. Jones collaborated in 1924 with abstract painters and sculptors like Robert Rauschenberg as well as engineers and sound composers to create “a presentation of light, colour, moving form and sound – an abstract evocation – a dream that is living with ‘life beyond life’” (Jones, *Drawings for the Theatre* 19). In 1968 Richard Kostelanetz christened the movement that was born from these roots as “the Theatre of Mixed-Means” to “[encompass] various strains of activity [happenings, kinetic environments, staged happenings and stage performances] and yet [make] the critical distinction between this theatre and traditional predominantly literary mono-mean practice” (Kostelanetz xi).

The realism the American avant-garde was interested in portraying was not one based on the social struggles of man and state but on the distrust of traditional forms of expression and on an expanded understanding of phenomenological experience. Artists like Piscator and Eisenstein were actually at the beginning of an understanding of the multiplicity of sensory experience and of an attempt at bringing this awareness to the stage. In the program for *The Merchant of Berlin* (1929)[63] Moholy-Nagy, one of the leading exponents of the Bauhaus, stated that “when the optical, acoustical and kinetic elements

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[63] Directed by Piscator.

are given as much space as the literary ones, we draw nearer to the essence of theatre" (qtd in Innes 148), and Piscator was well aware of these various modes of expression. He spoke of his productions as "symphonic synaesthetic artwork" (qtd in Innes 133) knowing that factual statements were not enough to keep the audience fully involved. Piscator's sophisticated use of communication media was therefore not only for documentary and didactic purposes but also to heighten the emotional identification of the audience (Innes 145). Nevertheless, his emphasis remained on the optical elements to communicate the main message of the play betraying a biased trust in the image, particularly the mechanically produced image of film; for Piscator the trust previously imbued in language had passed to the projected image as the vehicle for documentary 'truth'. The word is deconstructed and the image takes over.

But with the work of the American avant-garde of the sixties and seventies there is no such preference for one element of production over the other. Like Eisenstein they found inspiration partly in Kabuki theatre, which functions as a single monistic ensemble where "sound-movement-space-voice [do not] *accompany* (nor even parallel) each other, but function *as elements of equal significance*" (Eisenstein 20). Eisenstein admired the way that Japanese artists direct themselves to the various organs of sensation building "a grand total provocation of the human brain" (Eisenstein 21), making sound visible and light audible in a form of synesthesia. This non-differentiation of perception is what artists of the mixed-means theatre also attempted, along with a non-differentiation of the arts, creating a new plastic reality by unifying architecture, sculpture, painting, dance, theatre and all of the media technologies. They created a kind of 'total theatre' in which the discontinuous use of these attractions challenged the spectator to find his own way through the experiments thereby provoking an experience that is more participational than observational

(Kostelanetz 37). This kind of fragmented synesthesia was initiated by artists like John Cage and Merce Cunningham, who in 1965 collaborated with Stan Van Der Beek on a show called *Variations V*.[64] In this performance John Cage performed his score live in conjunction with Cunningham's modern choreography and Van Der Beek's video projections (see fig. 12). However this was not a traditionally choreographed piece as no one element took focus away from the others; they merely co-existed, sometimes coming together and sometimes conflicting with each other. The audience could freely choose to focus their attention on a specific element or take in the whole as a multi-sensory experience.

Fig. 12. Production photo from *Variation V*

These artists used all the electronic media at their disposal to provoke their audience, but instead of being a primarily political provocation, these 'attractions' served as a revolt against classical conceptions of mental concentration, against traditional ways of

[64] To view a video of this performance go to:
http://www.artmuseum.net/w2vr/timeline/Cage.html#CageText

organising experience and against a predominantly visual existence. By cultivating the total sensorium they aimed at expanding the audience's capacity to perceive, to help people develop a more immediate relationship with their environment, a kind of return to a more primitive experience of life and art (Kostelanetz 34). According to Marshall McLuhan, "[the] Word, . . . , separates man from an instinctive relationship of natural life" (qtd in Kostelanetz 34), and these artists believed in the notion that art should be the continuation of life if not life itself, but this did not mean the representation of scenes from daily life on stage. This experimental theatre was linked to ideas of naturalism "however, [it] is not an extension of literary naturalism; for although it employs natural materials and movements, its purposes are more formal than representational – it is more interested in the structural patterns life presents than in offering a literally detailed 'slice of life'" (Kostelanetz 34). Taking a cue from Dadaism and Surrealism, these artists not only intended to present formal similitudes of real experiences but also to use found materials of their surroundings as resources, making their aesthetic objective also their artistic method (Kostelanetz 35). Part of these everyday resources were film, video and television images; unlike in the twenties and thirties the motion picture was no longer a novelty but rather an intrinsic part of the American lifestyle. It is not so much the use of projections in these performances that is distinctive or innovative then, but the way in which projections are used, or how these media have influenced the artists' perception of the world and its reflection on stage. They were, just like their audience, spectators of television first and foremost, and they strove to bring its methods and sensibilities onto the stage, to transform traditional ways of seeing, hearing and behaving in the theatre.

This overview of the early history of moving image projections on stage and of shifting notions of space construction prompts questions that I believe designers today

should take into consideration when working with screens and virtual imagery. It is with this history in mind and in the context of this body of literature, along with additional specialised sources, that I will bring this exploration of moving images on stage into a contemporary outlook. What follows is a more in depth analysis of questions regarding the spatial implications of screens in the configuration of theatrical space, and regarding the live performer who is confronted by these surfaces containing a dimension alien to the human presence.

Chapter 2: The performer in a mediatised stage

In the previous chapter I reviewed how the mutual influences of film and theatre in the first half of the twentieth century were determinantal for the evolution of narrative, *mise-en-scène* and spectatorial relations in live performance, now a key element needs to be looked at more closely - the performer. The preceding chapter showed how the use of film on stage participated in the deconstruction of linear narrative, how directors and performers sought new ways of communicating to appeal to a different audience or to shock an existing one out of complacency, how the projected image played a role in creating a new kind of reality by appealing to all the senses of the spectator, and finally how multiple technologies and sensory elements are brought together to represent a mediatised view of the world. With all these media now converging on stage, it is important to reconsider the role of *live* performers, who find themselves in a particular situation, performing on a stage in front of a *live* audience yet surrounded by image technologies that can seem of a completely different nature.

Today, the debate on 'liveness' is well known in performance studies. Philip Auslander, who popularised the term 'liveness' in his book *Liveness: Performance in a Mediatized Culture* (1999), challenged traditional notions of liveness where the live event is considered "real" and mediatised events as "secondary" and "artificial reproductions of the real" (Dixon 123). Instead, he considers how live performance has become increasingly mediatised and argues that there may be no "clear-cut ontological distinctions between live forms and mediatized ones," that the live elements have become part of the "raw materials" in a *digital* environment (Dixon 123). Other critics, like Peggy Phelan,[65] valorise the unique

[65] See Peggy Phelan, *Unmarked: The Politics of Performance* (1992).

aura and presence of the live body through a humanist, emotive and uplifting discourse that "inspires like a call to the barricades of here-and-now ephemerality" (Dixon 125). This branch of cultural commentators uses the notion of 'presence' to promote the flesh-and-blood performers over their virtualisation. But before these notions became part of the contemporary discussions revolving around specific issues relevant to a highly mediatised and digital culture, they originated with the progressive deconstruction of the stage actor through film and video practices. Therefore before delving deeper into current critical thought, it is important to look at how and why theorists have come to question the 'presence' of actors and their virtual[66] counterparts by looking at the influence the advent of film had specifically on acting.

Early influences in the changing role of the performer

From 'montage' to 'montage acting': the deconstruction of the actor through film

Along with the deconstruction of linear narrative, the theatre artists of the Constructivist era initiated the deconstruction (or construction) of the actor, and this depersonalisation was picked up and taken further by the later American avant-garde. In his 1929 article "The Cinematographic Principle and the Ideogram," Eisenstein talks about applying his principle of 'montage' to acting. Inspired by Kabuki performances that he had witnessed, he puts forth the idea of "disintegrated" acting, or "cut" acting, where a performer would switch directly from one emotion to another without transition. This

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[66] I will be considering all the 'virtual' forms of the performer mostly under one umbrella since in my view they are all different from the 'live' performer in the same way, that is in their absence of corporeality and their need for a surface to be projected on. Admittedly, there is a marked difference between the recorded actor and the digital actor, or avatar, in that the recorded actor is not programable like the computer-generated one may be. When necessary, I will differentiate between the two.

resulted in breaking-up the performance into detached pieces, into ‘shots’ showing the process of movement by slowing it down. “Freed from the yoke of primitive naturalism, the actor is enabled by this method to fully grip the spectator by ‘rhythms’, making not only acceptable but definitely attractive a stage built on the most consecutive and detailed flesh and blood of naturalism” (Eisenstein 43). It is interesting that Eisenstein considered this as a progression of sorts of naturalism rather than a completely opposite, non-realistic way of working. In fact looking at the work of Brecht and Piscator, established as proponents of a new approach to naturalism, this Kabuki-inspired style of acting seemed to agree with their realist and didactic aims. By deconstructing pieces of reality, the intensity of perception increases and the didactic process of identification is made easier (Eisenstein 44), and so in Brecht’s ‘epic’ theatre every gesture, every sentence and every event is made to be discovered by the interruption of happenings. According to Walter Benjamin, German intellectual and friend to Brecht, this convention of interruption and analysis is the basis of the structure of ‘epic’ theatre and is what makes it “quotable”. As quoting text means interrupting of its context, the interruption of an actor’s performance means gestures become quotable making this method of performance more gestic (Benjamin, “Epic Theatre” 151). These gestures, however, were taken from every day life experiences and thus rang truer than the overly theatrical styles of past forms of acting.

This tendency towards a style of acting both ‘natural’ and constructed could also have been influenced by the growth of cinema and the work of artists who overlapped both film and theatre. When Eisenstein wrote about his approach to “cut” acting for the stage in 1929 it had been four years since he directed his first feature film, *Strike,* in which there is an occasionally odd combination of two styles of acting: the overly theatrical and the everyday natural. The sterotyped characters of the factory manager and owner, the

capitalists as well as the *agents provocateurs* bear the grotesque gestures and appearance of an exaggerated acting style usually seen on stage at the time, whereas the factory workers and proletariat collective seem like they were just captured by the camera without pretence. Even Eisenstein noticed this discrepancy when he described how, after attempting to stage the play *Gas Masks* (1923-24) in the real setting of a factory, he found himself "in the cinema" (Eisenstein 16) because the turbines and factory background negated the last remnants of make-up and theatrical costumes. "Our first film opus, *Strike* (1924-25), reflected, as in a mirror, in reverse, our production of *Gas Masks*. But the film floundered about in the flotsam of a rank theatricality that had become alien to it" (Eisenstein 16). In the same way, the filmed images in Piscator's shows negated any possible 'theatricality'[67] on stage. But pushed even further, the deconstruction of the actor meant for Piscator that the actor was one element amongst many others (see fig. 13). He saw the performer "simply as fulfilling a function, just as do light, colour, music, scenery, script" (Piscator, *Political Theatre* 121). And just as he applied scientific precision and factual coolness to all other elements of his productions, he expected his actors to similarly analyse their performance so that it reproduced "naturalness on a higher level and with a technique just as intentional

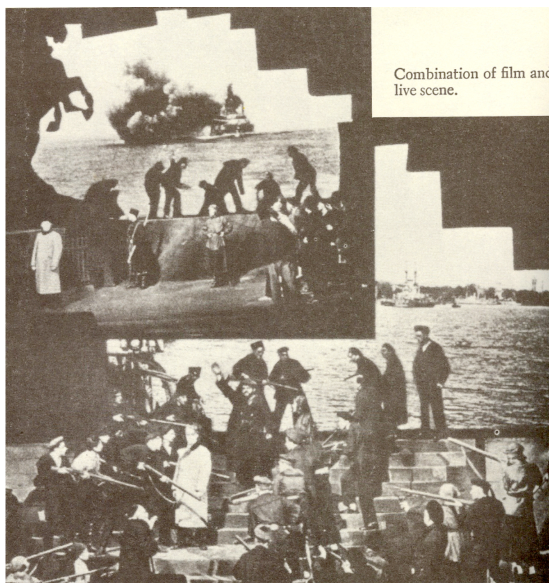

Fig. 13. Combination of film projections and live action in *Tidal Wave* (1926)

[67] 'Theatricality' is used here in reference to old conventions of stage acting.

and calculated as the architecture of the stage" (Piscator, *Political Theatre* 121) allowing everything on stage to fit together organically. Piscator started using various means other than dialogue to demonstrate his ideas because he considered verbal accounts to be interpretive and subjective; he wanted his drama to be documented by evidence. However, this evidence could not be allowed to slow the tempo, and so he used all channels of communication, visual and oral, as message bearing symbols containing 'condensed reality' (Innes 77-78).

> [Speeches] that could achieve an equal precision [to film] would be too long and lack impact when applied to such complex abstract subjects as the economic structure of society or the strategic implications of a military campaign. . . . Film therefore replaced the 'récit de Théramère' convention to bring scenes and events into a play that could not be represented by the actors. (Innes 78)

Because conventional stage dialogue was not well suited for paraphrasing vast subject matter the way Piscator intended, film and stage machinery played an increasing role in his productions. He also aimed at representing the technological nature of modern society and the impact of technology on living conditions by making the stage technology visible as opposed to hiding it for illusionistic purposes. This meant that the actor had to compete with elaborate and unconcealed stage machinery. According to Innes, Piscator's intention went deeper than an idealised portrayal of the spirit of the age; it pointed towards a new way of perceiving where the manner in which messages were communicated were more important than the messages themselves (Innes 94). Marshall McLuhan explains that modern technology destroyed the Renaissance perspective, which separated the individual from events, and cut across the time lag imposed by printing causing any reaction to

events to be immediate. McLuhan also argues that radio and television present a total picture that is multiple and simultaneous, compelling all the senses as opposed to the purely visual and therefore sequential process of reading, which has formed our concept of linear methods of thought (Innes 95).

Beyond language: Artaud's argument for a new stage language and a new actor

Though McLuhan wrote his seminal book *The Medium is the Message* in 1967, his understanding certainly applies to Piscator's innovative work and helps us to understand the diminishing or changing role of the actor. McLuhan's writings explain in hindsight the importance of media's influence in its early days, but there were others before him who predicted the need to break through linear thought processes and the distance between events and audiences, initiating this cultural revolution particularly in the theatre. One of these writers was Antonin Artaud who, in the 1930's,[68] saw the necessity of distancing the theatrical from the literary, asking "how does it happen that the Occidental theater does not see theater under any other aspect than as a theater of dialogue? Dialogue – a thing written and spoken – does not belong specifically to the stage, it belongs to books, (…)" (Artaud 37). Like Eisenstein, Artaud was inspired by Eastern traditions, notably Balinese theatre, to request a new "concrete language" for the stage, one that "has first to satisfy the senses" and in which "the thoughts it expresses are beyond the reach of the spoken language" (37). He is not opposed to appealing to all levels of intellect with poetry, but this poetry should be one that is constructed in space (Artaud 38), and it should consist of all the means of expression utilisable on stage: dance, plastic arts, pantomime, mimicry, gesticulation, intonation, architecture, lighting, and scenery (39). Like in the Balinese theatre every

[68] Artaud's writings were published originally in french as a collection of essays in 1938.

element is to be deliberately calculated to respond, react, contradict, affect all other elements. In this way nothing is decoration and every element is eloquent and message bearing (Artaud 39).

Like Wagner, who initiated the supremacy of the role of the director, and the directors of the 'epic theatre', Piscator and Brecht, who took on this role recognising that they now had to orchestrate an ensemble of expressive means, Artaud claims for the director the tools to "create in complete autonomy" so that "words [are] heard in their sonority rather than be exclusively taken for what they mean grammatically, [or] perceived as movements, [so that] these movements themselves turn into other simple, direct movements as occurs in all the circumstances of life but not sufficiently with actors on the stage," and then "objects themselves begin to speak; [light], instead of decorating, assumes the qualities of an actual language, and the stage effects, all humming with significations, take on an order, reveal patterns" (Artaud 119). With this new language of constructed signs, movements and images, Artaud wants his empowered director to bridge any distance with the spectator so that there is no distinct division between life and theatre, reforging "the chain of a rhythm in which the spectator used to see his own reality in the spectacle" (133).

For Artaud, the conduits to help reforge these chains are still the actors; they are whom the spectator must identify with, "breath by breath and beat by beat" (133). But the performance of the actor should not be based on the psychological representation of a person or clearly elucidated moral conflicts through verbal language. Artaud suggests instead that the performers look to the the science of their bodies to reforge the magical

chain. “Every emotion has organic[69] bases. (…). To know in advance what points of the body to touch is the key to throwing the spectator into magic trances. And it is this invaluable kind of science that poetry in the theater has been without for a long time” (140). In his desire to bring together poetry and science as the basis for a new kind of theatre, Artaud indeed echoes the intentions of Eisenstein, Brecht and Piscator, but as evidenced by his use of terms like “magical chain” and “magic trances” he also seeks to address the metaphysical; in this his writings are again reminiscent of Wagner’s *Gesamtkunstwerk*. Not only does Artaud speak of resuscitating the idea of ‘total spectacle’ and of recovering “from the cinema, the music hall, the circus” (86) what belongs to the theatre but he also advocates “to restore [theatre] to its original direction, to reinstate it in its religious and metaphysical aspect” (70). By building a complex physical language, Artaud not only wanted to create a new way of reaching people’s intellect, he also wished to create a theatrical experience akin to archetypal, primitive theatre which strove to attain the sublime through the fusion of the abstract and the concrete. The performers become like alchemists, who must use both their minds and bodies to make gold from ordinary matter (Artaud 52).

In the ‘Alchemical Theater’, the actor’s role is

> to resolve by conjunctions unimaginably strange to our waking minds, to resolve or even annihilate every conflict produced by the antagonism of matter and mind, idea and form, concrete and abstract, and to dissolve all appearances into one unique expression which [should be] the equivalent of spiritualized gold. (Artaud 52)

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[69] Artaud is using this term in relation to the organs of the body.

In this ‘total creation’, “man *(or the actor)*[70] [reassumes] his place between dream and events” (93). The magnified performance of the actors, enlarged in mythical dimensions to the stature of gods, heroes or monsters, will help portray *indirectly* great social upheavals, conflicts of human or natural forces, interventions of chance and fatality; however, these universal dramas might also be *directly* manifested “in material forms obtained by new scientific means” (Artaud 123). Because of this particular mix of the poetic and the scientific, Artaud’s writings will often be cited in performance criticism in the age of the digital performer, many seeing in the ‘virtual double’ of the live performer the realisation of what Artaud spoke of; the concrete body transcended from matter to mythical dimensions through the combination of art and science.

From construction to materialisation (or dematerialisation): the actor as media

In the work of the American avant-garde artists of the sixties and seventies, there is a continuation of certain principles and ideas found in Artaud’s manifestos and in the work of the German and Russian avant-garde of the twenties and thirties. The American avant-garde shares with Artaud the desire to privilege the physicality of the actor’s body over the spoken word, the inspiration of eastern theatrical traditions to appeal to all the senses, and the intention of reducing the gap between life and performance by attempting to represent the phenomenological experience of the world. From the Communist revolutionary artists the qualities of immediacy of events and reaction, the multiplicity of means of expression and the simultaneity of action carry over, but the message has changed. Since it is not concerned with raising social consciousness, the performer’s role becomes even more slippery. As with Artaud, in the mixed-means theatre the performer becomes a means of

[70] Italics my addition.

expression based on corporeality and movement and not on language. However, unlike Artaud's insistence on an almost mathematical planning and orchestration of the actor's movements and attitudes,[71] in most performances, scripts and scenarios remain fluid and the behaviours and actions of the participants are more or less planned. There is room for unexpected events to occur and indeterminate interventions. Even in the more scripted performances, those Kolstelanetz calls 'staged performances', which resemble traditional theatre the most, the role of the performer is one of malleable material as opposed to the primary carrier of expressions or messages. Akin to the performers in Appia's 'Eurthythmics' or Meyerhold's 'Biomechanics', these mixed-means performers are more dancer, mime or living sculpture than they are 'actors' in the traditional literary sense. "Since [their] gestures and movements are, to varying degrees, less precisely programmed than 'actors'' activities in the theatrical drama, mixed-means performers, unlike actors, do not assume other personalities, but merely display their own" (Kostelanetz 8).

Since they do not create 'roles' and since there is an absence of conventional dialogue, the performers "function instead as media through which the playwright expresses his ideas; they serve as icons and images" (Marranca x). This new role of the actor demonstrates a refunctioning of naturalism in acting, just as film had shown a new realism to the stage space (Marranca xiii). For a generation formed by television and movies, the old theatrical style of acting could not hold up, so non-virtuosic and natural

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[71] Although Artaud's writings were certainly influential, and continue to be referred to today, he never quite actuated his intentions on a stage; it is most likely through the work of the Surrealists that the American avant-garde encountered these principles and ideas. Therefore even though there is a resemblance it is difficult to establish a direct link between the two. The specific cultural context in which the American avant-garde was working also differed greatly from the postwar disillusion Artaud expressed. Based on consumerism and modern media technologies, American work was probably influenced more directly by this context than Artaud's ideas of a renewed mythical theatre.

movements became the starting point for new acting methods. In Richard Foreman's *Pandering to the Masses: A Misrepresentation* (1975), the actors function as speakers, as media for Foreman's ideas. Their speech is flattened by the elimination of inflectional patters, and their "attention to detail and emphasis on the natural rhythms of movement and speech produce an extreme naturalism" (Marranca 3). But instead of engaging in dialogue with each other, they enter into dialogue with images and stage pictures to give a cubistic illustration of Foreman's own personality (Marranca 4).[72] The show became a sort of running commentary functioning both as a complete play unfolding in performance time and as a diary of the playwright when writing the piece (Marranca 5-6). The actors become "blank faces", like screens on which Foreman projected his inner life. Just as the set changed its contours repeatedly in defiance of physical laws, so the actors had to abandon themselves to this surreal world, which took them back and forth in time and space in a kind of *filmic-theatrical* reproduction of the human mind (Marranca 10-11). This example shows the idea of using the actor as a *screen* in a symbolic sense, and this idea was also carried out literally in pieces like Robert Whitman's *Prune.Flat*. (1965). In this performance a filmed projection is shown on a big screen, in front of which two live actors perform, walking in and out of the projection beam so that they are at times one with the moving image, and "what is actually a filmed image deceives the audience into believing it is a staged activity" (Kostelanetz 283). As witnessed by Kostelanetz, these types of performances challenged not only the conventional experience of theatre but also the traditional means of communication and expression; not only are the word and text

[72] In fact Foreman himself was sitting in the front row of the audience during the performance operating tapes of pre-recorded messages as well as commenting live on the show and the performers (Marranca 5).

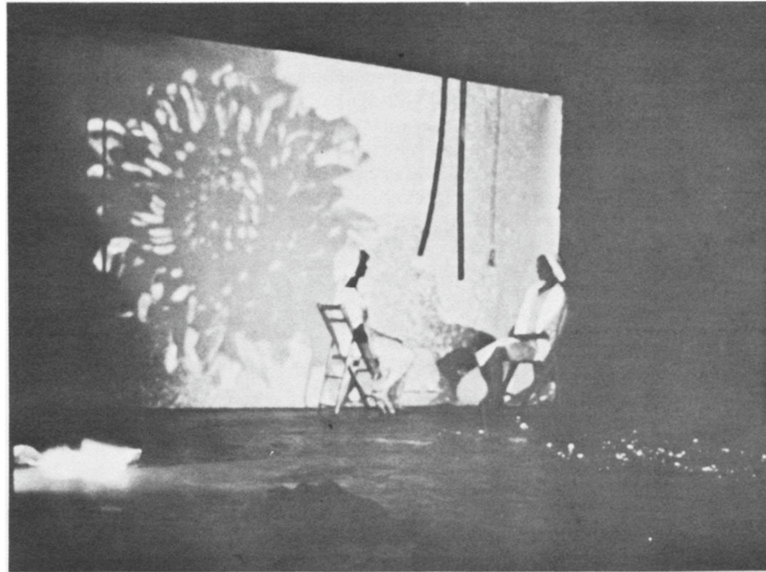

Fig. 14. Production still from *Prune.Flat.*

deconstructed and distrusted, but the image as well (see fig. 14). The live performer is now entirely malleable, capable of acting as a metaphorical and literal screen, sometimes disappearing into the image completely. From film 'montage' methods as inspiration for constructed acting techniques, to the camera capturing the 'natural' behaviour of the actor, to the actor becoming a blank screen on a stage filled with other types of screens, the many influences motion pictures had on acting from the twenties to the seventies have come full circle.

Current discourse on the performer in a mediatised context: the live actor vs. the screen actor

Now that I have discussed the ways in which the actor's methods of performing have been deconstructed, re-materialised and mediatised through the influence of moving image technologies, I turn my attention to what these changes might mean with regards to

a persistent issue in critical discourse on performance: the coexistence of the live and projected performer in the same space. Today the experiments of the first half of the twentieth century are part of theatre heritage and directors do not hesitate to place performers in a position that defies their physicality, that imbeds them in an environment ruled by the image and by technology. This progressive disembodiment on stage and training from the cinema has accustomed viewers to seeing actors on a screen. But what happens when we see both incarnations sharing the stage, the live body and its 'virtual double'?

Though its digital[73] incarnation is recent, the filmed character in the theatre is not new. From the moment film appeared on stage actors confronted their duplicate image, whether in character transported to another time and place or other characters from a very different dimension. Understandably it took some time for actors and directors to get accustomed to the presence of characters that were not in the same corporeal dimension as the live actors but framed by the two-dimensional edges of a screen, while at the same time surrounded by backgrounds more strikingly *real* than the built environment of the stage. Piscator's critics often noted the incongruity between the two worlds: "Not only were figures on the screen normally larger than the actors on the stage but the novelty of films in the context of the theatre made it immediately striking, while the actors appeared static and artificial in contrast to the definition and constant movement of the camera" (Innes 107). Piscator was conscious of the contrast between the two media and attempted to find successful ways of integrating film, sometimes harmonising stage and screen by using the actors on stage and all their surroundings as screens overlaying projections onto them.

[73] Digital here is used specifically in the sense of computerised images.

This allowed the film to be transformed into the movements of the actors and stage action.[74] But Innes says, in most cases, the “traditional conventions of the theatre, swallowed in the extreme realism of film, seemed out of place and fantastical,” and the new unsentimental and factual style of acting was a direct reaction to the dominating presence of the screen and the screen personae (111). And yet one can hardly contest the effect of the dramatic tension derived by the juxtaposition of live scenes and film clips. “They interacted and built up each other’s power, and at intervals the action attained a *furioso* that I have seldom experienced in theatre” (Piscator, *Political Theatre* 97).[75]

This is the beginning of a dilemma that persists to date: do screen actors rob live actors of their ‘presence’ or is it the physical presence of live actors that confers onto their technologically reproduced doubles a part of their ‘liveness’? Is there a metaphysical shift in the order of the human/machine hierarchy, as Martin Heidegger put it so that “in truth, it is the coming to presence of man that is now being ordered forth to lend a hand to the coming to presence of technology” (qtd in Goodall 5)? Or are screen actors simply devoid of ‘presence’? Do technologies of reproduction and representation, as Benjamin held, distance actors from their physicality and therefore ‘presence’? Both live and projected actors can function independently of each other, live actors on a theatre stage and screen actors on a movie screen, but when placed next to each other, can they coexist without negating one another, without rendering the other useless? And how do we define such a

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[74] From a quote by Piscator in “Technology – An Artistic Necessity for the Modern Theatre”, in *Bühnentechnische Rundschau,* oct 1959, p. 10f. (qtd in Innes 111).

[75] According to Greg Giesekam in *Staging the Screen*, Piscator rejected the assertion that “actors cannot perform in front of the projection screen because the flatness of the screen clashes with the three-dimensional nature of acting,” but he ultimately accepted that “a definitive acting style for the new stage apparatus has not yet been worked out” (qtd in Giesekam 46).

slippery concept as 'presence'? What is it that makes the presence of a live performer different from that of a virtual performer?

Benjamin and early reflections on 'presence' in film and theatre

No doubt there is a difference between the *work* of stage actors and that of screen actors, and even Benjamin writes about these differences in his well-known essay "The Work of Art in the Age of Mechanical Reproduction" (1936). He observes that the performance of actors for the camera is subjected to a series of optical tests (228) in the sense that actors do not need to respect the performance as a whole; the camera continually changes position and the editor composes these series of views (228), together constructing the performance. In this way, film actors are denied the possibility to identify with their characters because they are composed of many separate performances captured by the eye of the camera and pieced together by someone twice removed, unlike stage actors who build their performance over the course of the play and present it in its entirety directly to the audience (230). "The audience's 'identification' with the [screen] actor is really an identification with the camera. Consequently the audience takes the position of the camera; its approach is that of testing" (228). This allows the viewer to take the position of a critic without experiencing any personal contact with the actor (228).[76] According to Benjamin these differences mean that the film actor must "operate with his living person, yet forgoing [his] aura" (229). This 'aura' is the quality of performance, and of all artforms, which for Benjamin cannot be replicated by any mechanical means, i.e. the

[76] This does not necessarily remain true today because we are accustomed to the language of film which can use camera and editing tricks to create greater absorption. In addition to the Brechtian heritage which makes us accustomed to distancing techniques in theatre, the film actor can redo takes as opposed to the stage actor who faces the possibility of error. In my opinion today we are therefore more likely to assume the position of a critic at the theatre than when watching a film.

camera, and because their aura is tied to their presence before the audience, it seems that actors on screen are for Benjamin devoid of any ‘presence’ or ‘aura’ in the eyes of the audience.[77]

> The aura, which on the stage, emanates from Macbeth, cannot be separated for the spectators from that of the actor. However, the singularity of the shot in the studio is that the camera is substituted for the public. Consequently, the *aura* that envelops the actor vanishes, and with it the *aura* of the figure he portrays. (Benjamin, “Work of Art” 229)

There is not only the question of the mechanical role of the camera and the interference of the editor that is at play in the particularity of the screen performance, but also the role of the presentation mode, that is the projection itself. On this matter, Benjamin quotes the dramatist Luigi Pirandello who said:

> the film actor feels as if in exile – exiled not only from the stage but also from himself. With a vague sense of discomfort he feels inexplicable emptiness: his body loses its corporeality, it evaporates, it is deprived of reality, life, voice and the noises caused by his moving about, in order to be changed

[77] However, in another text, “Little History of Photography,” Benjamin suggests that there is a magical value in photographs that hold a “tiny spark of contingency, of the here and now” and compel the beholder to rediscover the spot where “in the immediacy of that long forgotten moment the future rests so eloquently,” giving way to a space informed by the unconscious (Benjamin, “Little History” 510). If extended to the cinematograph, would this line of thinking lead to the rediscovery of the ‘aura’?

> into a mute image, flickering an instant on the screen, then vanishing into silence.[78] (qtd in Benjamin, "Work of Art" 229)

Even if these accounts reflect a sort of nostalgia and romantic attachment to the tradition of stage acting, and although we no longer have a "mute image" but one that recreates the sounds of life, still the ephemeral, weightless and non-corporeal aspects of the screen character remain true today. In all these aspects, and also in relation to scale, the screen actor is the complete opposite of the live actor, but does this mean that they should not coexist on the same stage? Or should we see them as complementary 'presences'?

How do we define 'presence'?

Jane Goodall, in her comprehensive study *Stage Presence* (2008), explores the various ways in which 'presence' has been described through Western theatrical history, and how its related adjectives and descriptors are often rooted in ancient religious or pagan myths.[79] Goodall acknowledges from the start that the concept of presence is a difficult one to circumscribe, that there is something "untellable" (18) in the quality of presence. Certainly it has a strong connection to the audience:

> 'To have presence' in theatrical parlance, is to know how to capture the attention of the public and make an impression; it is also to be endowed with a *je ne sais quoi* which triggers an immediate feeling of identification in

[78] Quote from Luigi Pirandello, *Si Gira*, quoted by Léon Pierre-Quint, "Signification du cinéma", *L'Art cinématographique*, vol 2, 1927, 14-15.

[79] Although her concern is not necessarily with the cohabitation of live and screen performances, her analysis of accounts on both film and theatre actors will be useful to elucidate how they work independently while exploring what happens when they are juxtaposed.

> the spectator, communicating a sense of living elsewhere and in an eternal present.[80] (qtd in Goodall 1)

But what is this *je ne sais quoi*, what makes a performer compelling to watch? Many attributes and qualifiers have been associated with this hard to define quality: "it is radiance, genius, 'a singular chemistry', what Stanislavski calls 'stage charm', charisma, magnetism, attraction, an 'uncanny appeal'" (Goodall 17). Goodall traces the etymology of the term back to its earliest usage in association with the Eucharist, symbolising the presence of Christ in his actual absence. Around the sixteenth century its connotations start to split; "there is divine or divinely ordained presence and there is worldly presence" (8). These two models of human presence have been at the core of Western theatrical tradition since Renaissance humanism recognised this dichotomy; on the one hand, the dignitary classically educated nobleman with good manners, speech and bearing, on the other, the hermetic model of the ideal man. These two modes of presence encompass both the technical (training and technical prowess covering elocution and vocal technique, deportment, the aesthetics of gesture and facial expression) and the mysterious (qualities of magnetism and mesmerism, radiating inner power) forces at play in stage presence (Goodall 8-9).

If Benjamin's critique of mechanical reproduction, separating the scientific from the metaphysical, is a testament to science becoming almost synonymous with secularism, this was not always the case. Goodall reminds us that early experiments in magnetism and

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[80] Quote from Patrice Pavice, *Dictionnaire du Théâtre*, 1987.

electricity were surrounded by images of magic and fairyland,[81] and were fraught with a sense of the uncanny "as they began to make visible the presence of 'wondrous forces'" (qtd in Goodall 13).[82] Up until the late eighteenth century, "it was impossible to separate the occult, pseudo-science of mesmerism from the legitimate science behind electricity and magnetism" (Goodall 13). It is in the context of this history that Goodall places her analysis of presence, a concept that still today "breaks down the cultural dualisms of rationality and superstition, science and art" (13). A concept that in its fusion of technique and mystic very much relates to the intermingling of art and science in what Steve Dixon calls 'digital performance'. These intermedia practices are in fact a continuation of theatre's long history of using the most advanced technologies of any given time to "increase [performance art's] aesthetic effect and sense of spectacle, its emotional and sensorial impact, its play of meanings and symbolic associations, and its intellectual power" (Dixon 40), as with the master illusionists of the Renaissance and Wagner's *Festpielhaus*.

In Dixon's voluminous book *Digital Performance*, in which he writes an extensive review of the origins, early theory and recent critical and artistic practices of digitally enhanced performance,[83] there is an entire section concerned with issues relating to the 'body' in performances that present varying incarnations (or *disincarnations*) of performers;

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[81] A notable example of this is Loie Fuller who became an international icon following her personification of 'the Fairy Electricity' at the World Fair of 1900, where she performed the "Fire Dance". "This work of her own devising, exploited the advanced electrical effects newly available to the stage as a result of inventions from Tesla and Edison" (Goodall 128). Fuller is known in performance studies for her innovative use of new electric technologies as a pioneer in technologically enhanced performance.

[82] Quote from William Gilbert *De Magnete* (1958), xlviii.

[83] Dixon actually considers a significantly expanded view of performance compared to my considerations, including installation art, interactive installations and video art in gallery settings as well as internet and CD ROM performances.

real, virtual, recorded, real-time transmitted, computer-generated, computer activated, interactive, transformed, transgressed and enhanced apparitions of the human presence on stage. Many of these examples raise interesting questions about the effect of the technologically augmented or produced human forms on both the *live* characters that might share the stage and the audience that experiences these different types of 'presence'. In the 2001 dance piece *Blue Bloodshot Flowers* directed by Susan Broadhurst, a dancer performs with an advanced AI avatar, Jeremiah, a computer-generated head who interacts autonomously and in real time with the live performer and who learns and evolves as the piece progresses (Dixon 55) (see fig. 15). Dixon quotes the

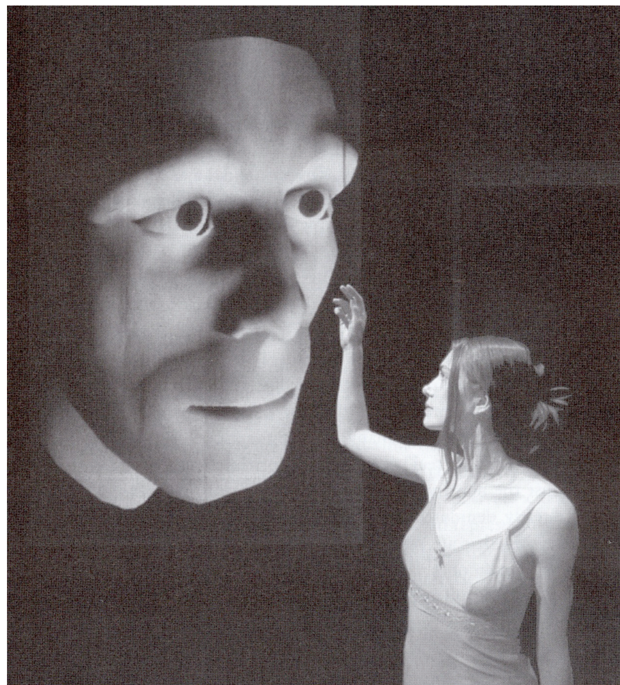

Fig. 15. Jeremiah, the advanced avatar 'performer' in *Blue Bloodshot Flowers*

director talking about the hybrid performance:

> the hybridization of the performance and the diversity of media employed… these imperceptible intensities, together with their ontological status give rise to new modes of perception and consciousness. Although much interest is directed towards new technologies such as Jeremiah, technology's most important contribution to art may well be the enhancement and reconfiguration of an aesthetic creative potential which consists of interacting with and reacting to a physical body, not an abandonment of that body. For, it is within these tension filled (liminal) spaces of physical and virtual interface that opportunities arise for new experimental forms and practices. (qtd in Dixon 56)

This quote prompted questions that I believe merit careful consideration before deciding to use virtual characters on stage. What follows is an investigative path exploring these questions.

What makes the live performer different from the virtual performer?

Firstly, the matter of the ontology, or nature, of the live versus the virtual performer, how their presences differ in incarnation,[84] intention and connection to the viewer. Certain critics like Auslander argue that in our culture there is no substantial difference between the live and mediatised concluding that "according to a simple logic… if the mediatized image can be re-created in a live setting, it must have been "real" to begin with" (Auslander 3). For

[84] I use this term here in the sense of their incarnation on stage which refers both to their physical appearance and their perceived experience.

him the two poles collapse arguing that audiences today are equally used to watching live and mediatised bodies, even side by side as in live rock concerts that transmit on giant video screens real-time images of the artists on stage, allowing the audience multiple simultaneous points of view of the musicians. Auslander consequently argues not only for the "legitimacy of the digital body within live work, but its equally copresent and "real" status alongside (rather than against) the live" (Dixon 124). I agree with Dixon that this type of logic may induce a "spiraling of the forms into a freefall of indistinguishability" (124); surely there must remain some kind of distinction between the two? Even if there is a sense of convergence or confusion of the two forms in some critical texts on the subject, clearly they must differ in perceptual and phenomenological terms. Dixon admits that "[this] presents a torturously difficult ontological issue, a classical example of an *impasse* between theory and practice" (Dixon 127), while also suggesting a phenomenological examination of 'liveness' to attempt to unlock its ontology. For him, the main characteristic of live presence lies in its relation to time, its "now-ness", as opposed to its corporeality (127), which is reminiscent of Benjamin's study of the 'aura' ("Work of Art" 220-21). Dixon however does not really consider other phenomenological differences that might be at play; I would suggest that the more important characteristic of live performers is in fact their physicality, in its perceptible weight, substance, occupation of the concrete stage space, and use of their flesh-and-blood body in combination with intellect and will.

For a more in depth analysis of what constitutes that unique attraction that causes

an effective ‘presence’ in an actor, I turned to Jane Goodall’s study.[85] There is, of course, the display of exceptional talent that contributes to making a performance memorable, but this type of fascination can also be experienced in digital performances that deploy remarkable technical wizardry; the talent of the actor becomes that of the operator or programer. As Goodall notes, many commentators on performance remark “how there was something more than this in the performance, something experienced as a uniquely powerful, perhaps even transcendent or magical” (Goodall 17). This something more, this particular energy, suggests presence as both a *state of being* and an *act*. “As a state of being, its associations are metaphysical and religious; as an act, it may be associated with the practical work of performance and performance training. Both must work together” (Goodall 20). Goodall’s point on the importance of training the performer’s body is reminiscent of Meyerhold’s ‘Biomechanics’ and Appia’s ‘Eurhythmitics’, along with Brecht’s demands that the body become the principle communicator, that physical actions be filled by renewed purpose and strong intention. Even Stanislavski, although perhaps not as concerned with physical demonstration, pushed his performers to be psychologically present on stage in a way that necessarily involved a kind of physical commitment beyond the literary acting tradition. Goodall cites the example of Michael Chekhov who promotes the awareness of radiation in an actor through physical exercises, including expansive movements combined with mental images of power emanating from a concentrated core within the body. “The power in the body is inexhaustible, and accumulates through expenditure so that by practicing radiation as an active, decided process, the actor will

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[85] Goodall notes that her challenge is not to demystify presence, but to investigate how it has been articulated and what kind of imagery surrounds it, “the rhetorics and imagistic language in which presence is evoked in different cultural and historical contexts, and across diverse forms of theatre and performance” (Goodall 7), in other words the poetics of presence.

gradually 'experience more and more of that strong feeling which may be called… presence on stage'" (qtd in Goodall 22).[86]

I wonder, then, if a substantial part of the effectiveness of stage presence is rooted in careful training and preparation as well as a supreme awareness of one's body through mental concentration, as evidenced by these examples, how can this be recreated in a virtual performer whose existence relies entirely on machines?[87] Especially since this radiance, this strong feeling, is not solely based on training and technique but also on "a quicksilver physical intelligence at work through the live unfolding of the performance on stage" (Goodall 21). In Stanislavski's words, the work of the dramatic actor, in preparation and in performance, requires

> a full concentration of all [his] mental and physical talents (…), and the participation of the whole of his physical and psychic capacity. It takes hold of his sight and hearing, all his external senses; it draws out not only the periphery but also the essential depth of his existence, and it evokes to activity his memory, imagination, emotions, intelligence and will. The whole mental being of the actor must be directed to that which is derived from his facial expression. (qtd in Goodall 43)[88]

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[86] Quote from Michael Chekhov *To the Actor* (2002), 7-12.

[87] Admittedly, at one point in the process of creation, a human being was necessarily involved and the digital being would not exist without human intervention, but at the time of performance, the incarnation on stage remains non-human.

[88] Quote from Constantin Stanislavski "Direction and Acting" in *Act: A Handbook of the Stanislavski Method* edited by Toby Cole (1975), 32.

For some critics though, the intrinsic qualities of the actor are either insufficient or too subjective to account alone for the distinctive presence of the live performer. There is another important element, the one on which Dixon concentrates his discussion of presence, and that is the relation to the audience, the “circuit between the energetic polarities of performer and spectator” (Goodall 121). This circuit evidently binds together the actor’s radiation and energy with the audience’s receptivity and fascination towards this ‘mesmeric’ act. Even if modes of spectatorship vary according to cultural conditioning and the breaking of traditional protocols, as in the political provocation in the twenties and thirties and social consciousness of the sixties and seventies, there is still a difference for spectators in the form of experience (ontologically) in different media. “Watching film, video, and digital media is a more voyeuristic experience than watching live performance, since in the literal sense of the word, the onlooker is looking from a position without fear of being seen by the watched” (Dixon 130). For Dixon this is the live performer’s capacity to ‘break the frame’ while for Artaud it is the metaphysical ‘danger’ of live performance.

Artaud praises Oriental theatre because it has not lost “the sense of that mysterious fear which they know is one of the most stirring (and indeed essential) elements of the theater when it is restored to its proper level” (Artaud 44). He called for a type of acting that brings back “that immediate and violent action” (84) he found in primitive theatre practices. This violence and danger is not necessarily to be understood literally but more as a “transgression of the ordinary limits of art and speech” (Artaud 89) and a revelation of the “undersides” of drama (Artaud 124). Basically, live performance and its present actor always hold the *potential* to disrupt viewers, to assault them. Recorded media can never break out of its predetermined frame, it cannot see or react to who is watching (Dixon 130). Even if it does not always occur, the unexpected may happen whether or not the actor

actually provokes it; an actor can deviate from the script, can accidentally or purposely change the course of the performance. The audience knows this and this awareness creates a certain reciprocity between audience and performer, a sense of danger (Dixon 131), which means that not only can the actor affect change in the immediate performance, but so too can the audience "actually change everything on stage by their energy" (qtd in Dixon 131).[89] The act of *being* on stage is in itself 'dangerous'; "Standing on stage is an aggressive act. It says: 'Look at me. Listen to me'. It says: 'I'm interesting, I'm talented, I'm remarkable'. 'Oh yeah?' Says the audience. You'd better prove it" (qtd in Goodall 40).[90] For Norman Mailer, theatre at its best can be seen as "a ceremony, performed by noblemen *(actors)* who have power to chastise an audience, savage them, dignify them, warm them, marry their humours and even create a magical forest where each human on his seat is a tree and every sense is vibrating to the rustle of other leaves" (Goodall 40).[91] In this ceremony, the actor's "presence is the real truth: He is at once the royal centre of all eyes, and a Christian up before the Lions" (qtd in Goodall 40).[92] Can the digital or recorded actor uphold a similarly complex relationship with the audience and the stage?

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[89] Quote from Robert Lepage in the *Canadian Theatre Encyclopedia*.

[90] Quote from S. Callow "Forward" in Michael Chekhov's *To the Actor* (2002), 69.

[91] Italics my addition.

[92] Quote from Norman Mailer *The Spooky Art* (2004), 202-4.

The vanishing point[93]: where the presences of the live and virtual performer meet

For some, the virtual performer answers to a whole side of performance theory relating to the sacred, mythical, spiritual or alchemical bedrock of drama. When Edward Gordon Craig wrote about his *Über-marionette* in 1907, it was principally in reaction against exhibitionistic tendencies of a personality-driven theatre, against the "flashiness of displayed personality" to which actors can too easily fall prey to (Craig 86). For him, the marionette was "the last echo of some noble and beautiful art of a past civilization" (Craig 86). In 1915, Futurist artists developed Craig's ideas further and predicted a time when "vibrations, luminous forms (produced by electric currents and colored gases) will wriggle and writhe dynamically, and these authentic actor-gases of an unknown theater will have to replace living actors" (qtd in Dixon 54).[94] It is hard not to see this vision's realisation in digital performance as it is known today. I am particularly reminded of intermedia productions like *Anima* (2002) by 4D Art (see fig. 16), in which a sophisticated projection system incorporating invisible half-mirrored screens created the illusion that three-dimensional human doubles appeared in the same physical stage space as the live performers (Dixon 250). In one sequence, a male performer's body appears to split into two separate bodies as his projected double tears itself away from his live body and the two 'men' perform a

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[93] I borrowed this expression from Jane Goodall who uses it as the title of a subsection of her last chapter in which she discusses the paradoxe of stage presence as drawing both from forces of the living and beyond (168-79). She in turn borrowed it from a quote by Herbert Blau in *Take Up the Bodies* (1982), 20.

[94] Quote from Enrico Prampolini's 1915 manifesto, "Futurist Scenography," 206.

furiously physical and elaborate duet (Dixon 251).[95] In productions like this, computer technologies are used for their 'invocation' potential, for their "powers to call things up" (Dixon 180),[96] and the beings they 'call up' into existence can be tied to long-lasting

Fig. 16. Duet between a live performer and his virtual double in *Anima* Photo: Victor Pilon et Michel Lemieux

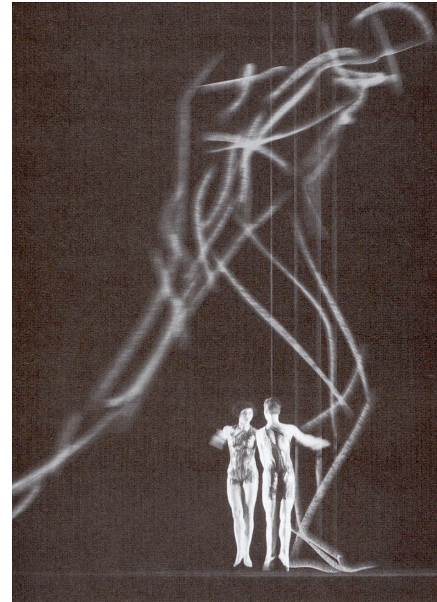

Fig. 17. Live dancers and their digital counterparts in Cunningham's *BIPED*

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[95] Merce Cunningham's *Biped* (1998) (see fig. 17) is considered a seminal moment in the development of this type of performance with digital bodies because of the impact it had on innovations in software usage in dance. In *Biped*, named after a Riverbed Company computer animation software, motion-capture techniques mapped in three dimensions the movements of dancers, which were then manipulated to create complex hand-drawn like figure animations performing the same choreography as live dancers (Dixon 187-188).

[96] Dixon quotes here an article by Chris Chesher, "Why the Digital Computer is Dead" (2002), in which Chesher argues for a new terminology of computers renaming "digital computers" as "invocation media", a terminology that takes into account the cultural connection between technology and magic instead of referring to the mathematical processes, especially appropriate for performance theory (Dixon 180-81).

theories of performance relating to magic and mysticism that remain part of the discourse on presence to date. The idea of an alternate body is not new in stage practices, from the "masked representations of gods, spirits, and demons in tribal dances and rituals, to the Furies of Aeschylus and the magical creatures of Shakespeare's *The Tempest*" (Dixon 239-40); the virtual body can be seen as an extension of these themes. Both the live and virtual performing body relate to the ""ethos of borderness" where the performing body is positioned within a threshold, or liminal terrain or state" (Dixon 240).[97]

Artaud used the inspiration of ancient traditions to exemplify a type of performance deeply connected to the body in an almost primal sense, but others interpreted the example of ancient mysteries to create an understanding of the actor based on absence, on a body that is emptied to better welcome "the presence of the All" (Goodall 27). Like the rituals of invocation practiced in old Mediterranean cultures, the body of the actor can be seen as a 'receptacle' associated with the idea of "the divine being mirrored in a sacred object" (Goodall 27). Goodall quotes Peter Brook who, in his autobiography *The Shifting Point* (1987), talks about a Mexican figurine representing a goddess "all so right in the conception, in proportion and form that this figure expresses a sort of inner radiance" (25) that makes concrete the very quality of radiance without describing it through some abstract symbols (25). To Brook this is the essence of great acting, to empty oneself, to become like the statue an empty object in which one can feel fullness by its simple attitude (Goodall 25). In Greek mythology the idea of the symbolic, artistic representation of a 'receptacle' as harbouring the 'soul' is also present. As an act of preservation, the first

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[97] Dixon takes these ideas from Johannes Birringer, *Media and Performance: Along the Border* (1998). The notion of liminality in performance is also discussed in Susan Broadhurst's *Liminal Acts: A Critical Overview Of Contemporary Performance And Theory* (2000).

paintings or sculptures served as a surrogate for an absent loved one.[98] Victor Stoichita explains that the Greeks symbolically linked the shadow, the soul and a person's double. Therefore a clay representation of a person's body was the 'duplicate' of the disappeared one; the 'soul' of the double was the shadow of the person captured in a receptacle, its 'body' (Stoichita 18). But can the 'soul' exist without the 'body', can the 'shadow' persist without a 'receptacle'? Is the virtual performer like a shadow without a receptacle, devoid of a soul (presence) for lack of a body? Artaud says that "every real effigy has a shadow which is its double; and art must falter and fail from the moment the sculptor believes he has liberated the kind of shadow whose very existence will destroy his repose" (12). Should I understand by this that the 'shadow' should not be contained but allowed to roam freely, to haunt the living? According to Artaud, "the true theater has its shadows too (…)" but its shadows from the beginning "did not tolerate limitations" (12); "because it moves and makes use of living instruments, [theatre] continues to stir up shadows where life has never ceased to grope its way" (12). Artaud goes as far as to speak of theatre in terms of a 'virtual art,'[99] which like alchemy operates through symbols as a 'spiritual Double' of reality (Artaud 48). The theatre is a mirage like the alchemical symbol is mirage, and like a mirage the world in which the characters, objects, images of the stage develop "constitute the *virtual reality* of the theater" (49).

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[98] The myth of the origin of sculpture referred to here is Pliny the Elder's account in his *Natural History*. According to the story, a young woman captured the image of her departing lover by tracing the contour of his shadow on the wall as he lay in bed, and then her father gave the shadow "consistency" by giving it the shape of a relief (Stoichita 15-17).

[99] According to Dixon, Artaud was the first to use the term 'virtual reality' (Dixon 242), but Artaud does not use the term 'virtual reality' to mean a non-corporeal (computer-realised) 'double' of reality the way Dixon refers to it.

Many critics took this line of thought and carried it through to digital performance seeing in virtual bodies a similar blurring of boundaries between imagination and reality, between "the symbol and the thing it symbolizes" (qtd in Dixon 243),[100] which also connects to the notion of the 'uncanny'.[101] "[As] a theory of the ghostly (the ghostliness of machines but also of feelings, concepts and beliefs), the uncanny is as much concerned with the question of computers and "new technology" as it is with questions of religion" (qtd in Dixon 243).[102] Goodall also notes that "[life] is always in communication with death" (169) and that the business of the actor may be to create such openings where "the expanded life cycle of the ancient mysteries is opened suddenly, in an instant of unexpected awareness" (169). In Goodall's analysis of stage presence however, the spiritual, the ghostly, the shadow is never separated from the living body. In the Eleusinian mysteries the heart of the mystery "lay not in any immaterial secret but in corporeality itself, with its capacity to encompass the divine and the magical," and this epitomises the central paradox of presence in theatre: "although a strong stage presence brings a heightened sense of the here and now, it is also resonant of the expanded life cycle which moves through the realms of the dead, links up with ghosts and immortals, then returns to the natural world with renewed vital force" (Goodall 28).

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[100] From a quote by Jacques Derrida while discussing Freud's 'uncanny' in his essay "The Double Session" (1970), 220.

[101] For more on Freud's definition of the 'uncanny', see Freud et al. "Fiction and Its Phantoms: A Reading of Freud's Das Unheimliche (The "Uncanny")" in *New Literary History* (1976) vol 7.3.

[102] Quote from Nicholas Royle who did an exhaustive study, *The Uncanny* (2003), tracing the notion of the 'uncanny' through the writtings of Kant, Marx, Nietzsche, Freud, Heidegger, Wittgenstein and Derrida.

Throughout her study, Goodall demonstrates a constant exchange between the material and the spiritual, the body and the soul, life and death (or otherness) to establish the performer's presence as belonging to both realms at once. If the spiritual can truly only be actuated by passing through a physical body that has prepared itself, by symbolically emptying itself like Brook's receptacle actor or by transcending its trivial realities like Artaud's metaphysical actor, if the shadow needs a body to produce presence on stage, how does the ghostly, evanescent, immaterial, digitised form compete with the live actor's power? Perhaps it is too much to ask of the digital body to possess the capacity to capture the vital force of living actors who, because of their connection with an entire history of performance, can actualise the spiritual and the magical in a presence made real through corporeality. Perhaps, as Susan Broadhurst said, the true creative potential of digital bodies, the way to create enhanced presence, lies in the interaction and cohabitation of the live and the virtual, in "these tension filled (liminal) spaces of physical and virtual interface" (qtd in Dixon 56).

The performer and his 'virtual double': the question of 'presence' reconsidered

According to Robert Lepage actors should always be conscious of their 'shadow' (two-dimensional) as well as their physical presence (three-dimensional) as it is the meeting of these two means of expression that can create surprising theatrical possibilities.[103] Lepage attributes the magic that results from this meeting to a theatrical awareness which goes back to the origin of theatre as a story or dance in front of a fire where the shadow of the performer was projected on a cave wall. It is the realisation that actors are never alone, are always accompanied by a two-dimensional image of their shadow, which can tell a

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[103] Lepage, personal interview, 17 Mar 2009.

different story.[104] In Plato's myth of the cave the shadow is the earliest kind of make-believe, an appearance akin to mimesis as opposed to the capturing of the soul as seen previously (Stoichita 23-24).

> If in the Plinian tradition, the image (shadow, painting, statue) is *the other of the same*, then in Plato the image (shadow, reflection, painting, statue) is the same in a copy state*, the same in a state of double*. And if in the Plinian tradition, the image 'captures' the model by reduplicating it (such is the magic function of the shadow), in Plato it returns its likeness to it (such is mimetic function of the mirror) by representing it. (Stoichita 27)

According to Stoichita, our Western theatrical (and artistic) culture is based on the Platonian model of mimesis, one that is 'oculocentric' (22) and representational (i.e. perspective painting) and the Plinian tradition of simulacrum is more tied to an Oriental mentality (Stoichita 27). The idea of the 'double' in this Oriental tradition pervades digital performance and relates to the virtual double as alter-ego and mannequin (Dixon 244). The technologised double as a reflection, on the other hand, revisits the myth of Narcissus where Narcissus' search for the sublime in his own reflection is replaced by the new "*technological sublime*, which we find equally fascinating and hypnotic as the natural one" (Dixon 246). The reflection we create through technology satisfies the fantasy of seizing reality and controlling it; "Human vanity is replaced by the new technological vanity: our faith in the transformational power of computer technology" (Dixon 246). But just as Narcissus was obliterated by his fascination, can the human actor fall prey to a technologised reflection? By splitting performers, conjuring into existence the extensions of

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[104] Ibid.

their personality, alter-egos or altered states of being, are we engaging the stage in a battle of two worlds where one must preside over the other (see fig. 18)?[105]

Fig. 18. Duel scene from Lepage's *Elsinore* (1997) Photo: Claudel Huot

Perhaps the stage is enacting the cultural phenomenon of the widening split between mind and body where because of the proliferation of electronic media "whole societies at a time become discarnate, detached from mere bodily physical "reality" and relieved of any allegiance to or a sense of responsibility for it…" (qtd in Dixon 214).[106] Has the Cartesian split now been actualised by technology so that the body no longer serves to contain and limit the self, so that the singularity of our self is no longer "guaranteed by the continuity of the mind in the body" (qtd in Dixon 214)?[107]

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[105] I am reminded in particular of Robert Lepage's *Elsinore* (1997) in which he performs all the characters aided by his 'double', a projected image of himself. The final scene of the sword fight is especially striking as he literally battles his virtual image.

[106] Quote from Marshall McLuhan and Wilfred Watson "From Cliché to Archetype" (1995) in *Essential McLuhan* edited by Erick McLuhan.

[107] Quote from Jon Stratton "Not Really Desiring Bodies: The Rise and Rise of Email Affairs" *Media International Australia* (1997), 28.

In cyberspace theory, there is the increasing acceptance that people's minds are separate from and not contained by their bodies (Dixon 214) causing a form of disembodiment whereby people become "a concept rather than a physical presence" (qtd in Dixon 214).[108] Perhaps the digital performer is in part a reflection of this notion, a way of representing the sometimes various states of mind outside the body, as with the appearance of the 'avatar'[109] and cyberspace. Dixon gives the interesting example of David Saltz's interpretation of Shakespeare's *Tempest*, *Tempest 2000* (2000), in which the character Ariel is a screen avatar double manipulated in real time by a live performer on stage, imprisoned in a cage and wearing a motion capture suit. All of her live movements are instantaneously mapped onto the computer-animated figure, and voice recognition

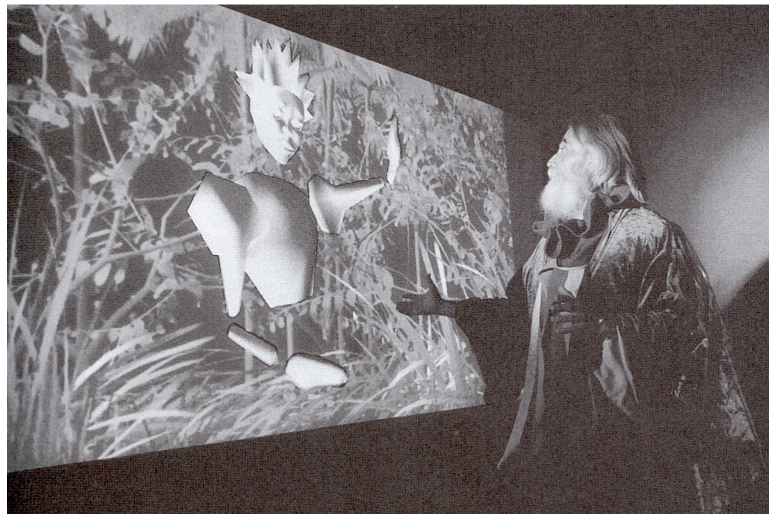

Fig. 19. An early prototype of the avatar Ariel, with Prospero

[108] Quote from Peter Lamborn Wilson "Boundary Violations" *Technoscience and Cyberculture* (1996) edited by S. Aronowitz et al.

[109] According to Jeff Cook, Chip Morningstar coined the term *avatar*, from the Sanskrit description of the incarnation of gods in human form, around 1986 as a description for the animated graphical representations of participants in the *Habitat* virtual world. See Cook, "Myths, Robots And Procreation." (Page 699). The term avatar derives from Hindu scriptures: the Sanskrit *avatara* translates as a descent, passing down of gods from heaven to the material world (Dixon 259).

software synchronises in real time the avatar's lip movements to her corporeal double's (see fig. 19). In the end, when Prospero releases Ariel, he pulls off the electrodes and the screen avatar wilts away while the on stage performer joyously dances off stage (Dixon 260). Although the director says that he used the avatar to "broaden the expressive range of [the] actors and redefine what it means for performance to be live" (qtd in Dixon 260),[110] it is difficult for me to ignore the fact that it is the virtual double that dies off and the live performer that is thus liberated. Is this a warning to the dangers of being mesmerised by our technological reflection, and, in this fascination, of being paralysed by its magical capabilities? For Matthew Causey the moment when live actors confront their digital Other is like the uncanny experience of facing their mortal selves outside themselves: "enacting the subject's annihilation, its nothingness…. The ego does not believe in the possibility of its own death. The unconscious thinks it is immortal. The uncanny experience of the double is Death made material. Unavoidable. Present. Screened" (qtd in Dixon 269).[111]

"These images, this multitude of ectoplasms brought forth by chemistry, light, mathematics, electronics, and composed of pixels, seems to speak of death, whereas the body would speak of life… Unless it is the opposite, since the image is also resurrection of the dead"[112] (Picon-Vallin 11).[113] Or is it both? If we think about it, the stage has always

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[110] Quote from David Saltz "Tempest 2000" (2000), database entry in Digital Performance Archive <http://art.ntu.ac.uk/dpa> (qtd in Dixon 260).

[111] Quote from Matthew Causey "Screen Test of the Double: The Uncanny Performer in the Space of Technology" *Theatre Journal* (1999), 386.

[112] The relation of the 'Other' to death symbolism is also present in Barthes' theory of the photographic image as a type of primitive theatre of the dead, and can be related back to the Narcissus myth and ancient, primitive beliefs (in ancient India and Greece, to dream of seeing one's reflection was considered an omen of death) (Dixon 269-70).

[113] My translation from French.

been about death and life at once, about presence and absence; in its physical immediacy and its ‘now-ness’ it seems to speak of presence, and in its essential ephemerality and its power to conjure ‘shadows’ from beyond it seems to speak of absence.[114] To reinterpret Benjamin’s discussion of the ‘aura’ in relation to the virtual double, through this study I have demonstrated a shift from a point of view of duality and opposition to one of diversity; it is not so much a question of manifested presence in contrast to its absence but a matter of the cohabitation of multiple ‘qualities of presence’.[115] Perhaps this is precisely what constitutes the continued attraction of the stage, the constant play between the magic of substitution and the magic of resemblance, creating a continual tension between the deceptive nature of mimetic illusion (Plato) and the compelling pleasure of capturing and seeing life (Pliny). Perhaps this same ambivalence is also at play in the attraction of the performer, live or virtual. Depending on how it is used, the projected image of the actor can just as well capture a mystical presence, a form of life, as it can show its artificiality, its emptiness when compared to the physical presence of its live counterpart.

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[114] It is interesting to note that there is a similar fluctuation of presence and absence in film and video, where the images constantly disappear or are erased, imperceptibly, to reveal the next image (Dixon 126). For more on the notions of presence and absence in theatre compared to film and recorded media, see Phaedra Bell “Dialogic Media Production and Inter-media Exchange” *Journal of Dramatic Theory and Criticism* (200), and Peggy Phelan *Unmarked: The Politics of Performance* (1992).

[115] This is inspired by Picon-Vallin’s use of the term *“régistres de présence”* (29). It is difficult to find an appropriate English equivalent to the word *“régistres”*. Commonly one might use the term ‘levels’ but this implies a certain hierarchy which is not necessarily the case with ‘*régistres*’, so I have chosen the word ‘qualities’ instead, but not in the sense of better or worse ‘qualities’ more in the sense of ‘realms of presence’.

Chapter 3: The mediatised image on stage, the pictorial meets the architectural

An important factor in the effect of 'presence' in live performance is the *place* where the conjuring can occur, for as the performer may be a form of 'receptacle' that channels a variety of 'presences', so too does the stage act as "the place privileged for the conjuration of presence" (Goodall 170). Since the mysteries in Ancient Greece, the "creation of a specially appointed place" (Goodall 27) has been associated with performing rituals of invocation, and "the notion that the stage is a place where the invisible can appear has [had] a deep hold on our thoughts" (Brook 42) since then. This brings me to the second key piece of the equation in the study of moving image technologies in theatre: the stage. The actor does not perform in a vacuum but in a concrete space that is both real and virtual, that itself struggles with many dimensions and levels of reality; a vacuum that is to be filled not with actors alone but also with other signifiers and means of expression that participate in the creation of the universe brought to light for the audience. As shown with the brief history in chapter one, this stage universe has known many variations since the first attempts during the Renaissance to represent a unified stage space. In the course of the twentieth century new technologies came into play and brought about a new stage language that affected both the performer and the stage space. Theatre semioticians have noted that theatrical performance constitutes one of the most complex forms of communication, tying together numerous elements and signifiers in what Bourdieu calls "simultaneous semiologies" (Dixon 336). The inclusion of media screens or digital projections introduces yet another coded sign system to the stage space. The additional media frame suggests a semiotic dialogue between the screen image and the action (Dixon 336). But it is not just a question of how different, sometimes competing means of

communication might be decoded; it is equally as important to consider how these ‘media frames’ affect the *construction* of the stage in relation to the actor and the actor-audience relationship.

If the actor needs the stage to reach the audience, and if the actor’s effective presence is aided and augmented by a space that is physically inhabitable as Appia, Meyerhold and Artaud proposed, then what happens when that space is inhabited by screens, projections and technologies that often deny the physicality of the performer, that rely on an absence of physical contact to maintain the integrity of their illusion? Appia had foreseen a certain danger in the inclusion of such technologies onto the stage in his article “Mechanization,” in which he both praises the virtues of the cinema but also warns against the dangers of mechanisation, of “[putting] ourselves at the service of technology” and of “[creating] an organ before its function is determined and thus [producing] monsters whose tentacles agitate blindly in a void” (Appia, *Essays* 362). Meyerhold, who said in order to compete with the popularity of cinema “let us carry through the ‘cinefication’ of the theatre to its logical conclusion, let us equip the theatre with all the technological refinements of the cinema,” also insisted that “by that I don’t mean simply the erection of a cinema screen on stage” (Meyerhold 255). I would add the erection of a cinema screen that harkens back to the two-dimensionality of the painted illusionist background. Even if the image projected simulates three-dimensional space, the screens we are accustomed to are mostly flat.

Yet despite the two-dimensionality of the surface, projected media can offer spatio-temporal possibilities that theatrical space alone cannot. It provides a “uniquely pliable and poetic space” (Dixon 335) that can challenge the fixed viewpoint of the spectator and defy traditional perspective established since the Renaissance. The motion picture proved to be an artistic medium that has the power to appropriate time, space and movement within its

image, allowing artists to “possess life itself” as Appia wrote about the cinematograph in 1922 (Appia, *Essays* 360), but what of its relation to the external space of the stage, the space where the performer’s body lives? And what does the audience see when they look at a stage filled with screens and actors - two mediums from two distinct dimensions that compete for its attention? Or is our conception of space altered by the screen, which becomes “a ‘virtual window’ that changes the materiality of built space” (Friedberg 1)? Before analysing how contemporary practices deal with these issues of projection screens within the stage architecture, it is important to understand what has conditioned perception of representational space and how that perception has changed with the aesthetics of film, video and later digital media. For this it is necessary to go back to Alberti’s definition of perspective since it is “the first account of the transformation of three-dimensional space to the planes of two-dimensional representation” (Friedberg 1), the basis not only of perspective painting but also moving image media.

The Renaissance window: from the canvas to the screen and stage

As reviewed in chapter one, the technique of perspective painting was applied to set design not long after Alberti wrote his treatise in 1435. Although perspective was first used with an architectural understanding of stage space the way Serlio intended, it quickly lost any architectonic feel to become purely pictorial, a layering of realistically painted flats using the single point perspective of Alberti’s window-painting. At the turn of the twentieth century, many technological advances challenged the notion of ordered and sequential space that had become associated with perspective’s long lasting hold on the definition of viewing conditions. Digging a little deeper, however, shows that this supposed break with perspectival space and its strict spectatorial conditioning is not that obvious. In fact, one could argue that the predominance of frames and screens in our modern way of life

perpetuates an even greater tradition of pictorial framing of space, a stronger tendency towards flat representational space. The question becomes even more complex when we talk about theatrical space since it is never purely pictorial nor purely architectural; as a 'virtual' picture framed by the proscenium arch[116] it can refer to Alberti's idea of the window and fixed viewer, yet as a concrete space inhabited by the corporeal bodies of performers it can call out to the architectural space where the spectator sits.

In *The Virtual Window* Anne Friedberg says that "Alberti's Renaissance metaphor drew upon the window as an analog for the perspectival frame of the painting; since then, the window and its common metaphysical corollary – perspective – have remained central figures in the theorizations of the space of vision" (5). With the perspectival window Alberti created a viewing condition based on an immobile frontal spectator who would grow more and more accustomed to the idea of watching virtual images. Drawing from art historical, architectural and media theory, Friedberg traces interesting analogies and parallels between the invention of perspective as a tool to represent three-dimensional space, the moving image screen and the frame of the architectural window. Although most art historians discuss Alberti's window metaphor to explain his technique as a "transparent" "window on the world," Friedberg argues that "Alberti used the window predominately as a metaphor for the frame – the relation of a fixed viewer to a framed view – (…). Its frame was to be used to position the viewer in relation to its perspectival construction of space" (12) (see fig. 20). In this light, the most enduring aspect of Alberti's heritage is not so much his technique for painting, but the use of a literal and metaphorical framing device defining centuries of viewing conditions: "The everyday frames through which we see things – the

[116] Although there are many performances and plays that are not in proscenium based theatres, most auditoriums still today are based on proscenium configurations, *à l'italienne*.

“material” frames of movie screens, television sets, computer screens, car windshields – provide compelling evidence of the dominance of the frame and its visual system” (Friedberg 13-14). This visual system is no stranger to the way spectatorial relationships were built in the theatre for centuries since the Renaissance with the frame of the proscenium arch delimiting ‘stage pictures’ not unlike the frame of the canvas around painted pictures. The question Friedberg asks is whether this long established viewing condition based on the framing of virtual spaces has really changed with the advent of the moving images of film, which were supposed to have challenged the well-ordered perspectival spatiality that Alberti’s window is thought to have perpetuated. I would ask the same question of theatrical space, does the inclusion of projection screens break down the perspectival illusionism of the Wagnerian stage and renew spectatorial conditions the way that early practitioners like Piscator and Meyerhold hoped it would? Or does the screen become a painterly surface that struggles to relate to the actors and requires a strict frontal viewing the way canvas covered flats and backdrops did?

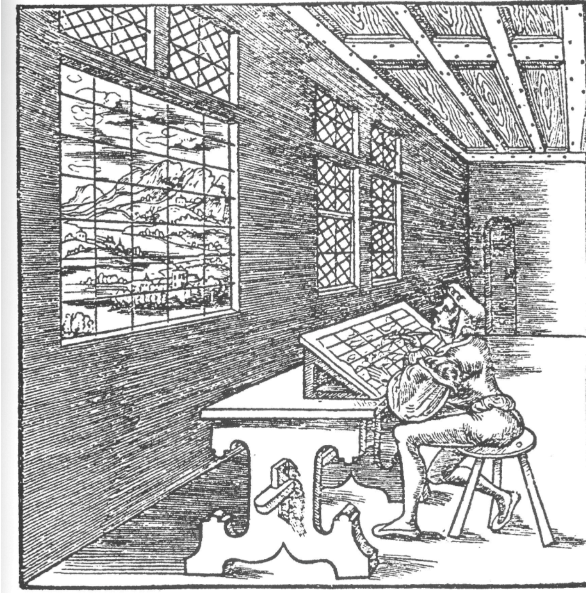

Fig. 20. Woodcut illustration of Alberti’s perspective method (1531)

Is the cinema of the same lineage as perspective painting?

Many modern film theorists[117] assume a direct continuity between Renaissance perspective as described by Alberti, the camera obscura and the photographic camera, assigning "the same spectatorial effects to perspective (its "manmade" codifications to vision) and to its less mathematically rulebound apparatical cousin, the camera obscura" (Friedberg 74). Like the perspectival plane and frame of Alberti's window and its concept of a "windowed elsewhere" (Friedberg 32), the camera obscura helped artists to transform the three-dimensional space of vision to the two-dimensional *virtual* plane of representation (Friedberg 60). But the camera obscura in reality functions more like an architectural

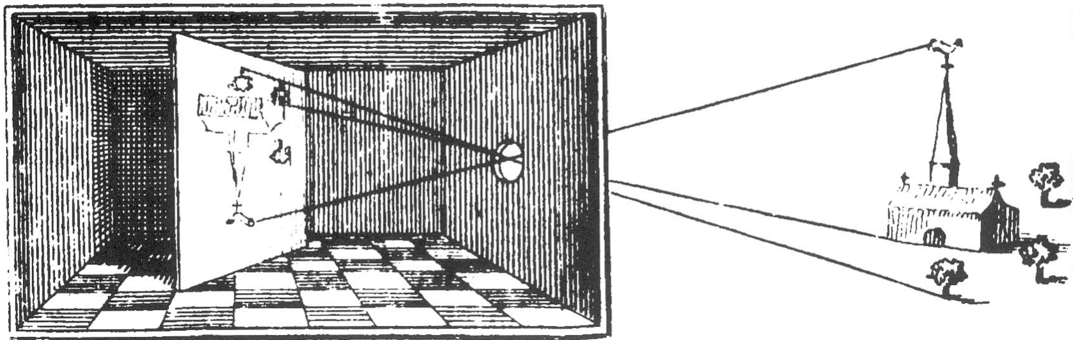

Fig. 21. Drawing of a camera obscura by Athanasius Kircher (1671)

window, an aperture bringing light from the outside into a darkened interior, and directly projecting an image (inverted) onto a planar surface without the need of mathematical calculation or geometric formula (Friedberg 61). With the camera obscura, an exact image of an outside scene, in full movement and colour, is carried inside by a ray of light (see fig. 21). This moving image led to uses for entertainment purposes through the development of

[117] Friedberg names in particular Christian Metz, Jean-Louis Baudry, Jean Comolli and Stephen Heath, a group she calls "apparatus theorists" (74).

“other wondrous devices” like “a magic lantern show similar in construction to the camera obscura but with a human performance in view” (qtd in Friedberg 65) (see fig. 22).[118] This “virtual movement” watched by an immobile viewer is quite easily associated with the film screen just like the camera obscura’s translation of three-dimensional space onto a two-dimensional plane was identified with linear perspective.

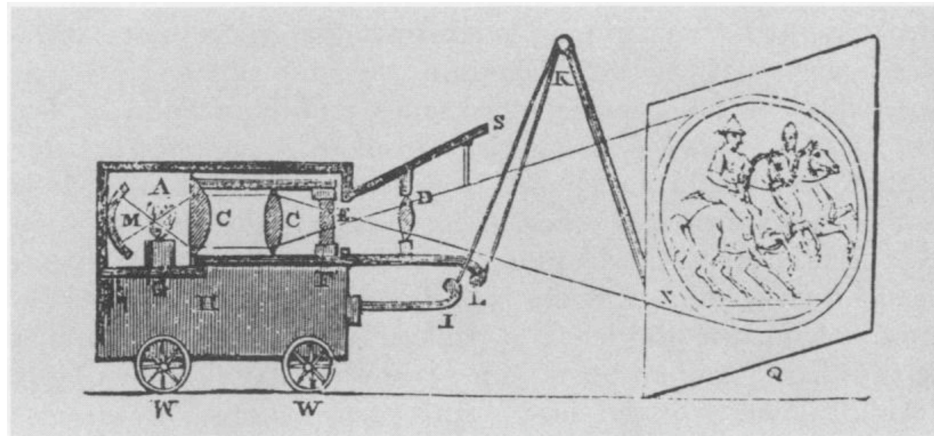

Fig. 22. Magic lantern illusion on wheels

This identification of the film camera with previous optical devices led theorists to conclude that it functions consistently with the so-called one-point perspective and a fixed centrality of the spectator (Friedberg 76). Friedberg suggests that it is important to return to the premises to untangle the common confusions between what she considers to be three separate representational devices of perspective: the camera obscura, the photographic camera, and the moving-image camera (74). There is a historical lineage between the three, but phenomenologically and functionally there are substantial differences. The photographic camera developed as an attempt to capture and record the image of the

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[118] Quote from Svetlana Alpers *The Art of Describing: Dutch Art in the Seventeenth Century* (1984), 13.

camera obscura, but in doing so it removed its movement. And yet the motion studies of Muybridge and Marey were the first steps towards the motion camera that reconstituted motion through a *virtual* rendition making invisible the darkness between the still frames (Friedberg 92). This basic fractured structure allows for the possibility of a fractured composition of space and viewing, quite different from the direct unmediated movement of the camera obscura and the fixed perspective of Alberti's window.

The fractured space-time frame of film

There are several shifts in perception at the turn of the twentieth century that we can relate to the development of cinema: one, the shift from naturalism as a faithful representation of the external world to Surrealism influenced by psychology's new understanding of the inner realities of the mind (Aronson, *Looking Into* 105); two, the shift in the perception of time from the linear narrative to the relativity and malleability of temporal references; and three, the shift from a naturalistic space ordered by sequential events to the distortion of traditional spatial references by a new mechanical speed. With these shifts, everyday experience of the world and of the place of the human being in it was bound to break with the traditionally unified vision of the experience of time and space (Kern 88). "The difficulty painters have rendering the movement of an object in time has always been a frustrating limitation of the genre" (Kern 21), but at the end of the nineteenth century the Impressionists tried to break down this barrier by painting the passing of the day through subtle change in the light of the subject. Later the Cubists tried to formalise movement by illustrating simultaneously several points of view, dissecting objects without giving authority to one perspective over an other (Friedberg 118). In literature, the growing interest in psychoanalysis and in exploring the uncharted regions of the human mind led to experiments like 'automatic writing' and Surrealist wordplays that disregarded narrative

continuity. Artists could now envision the possibilities of time and space as yielding materials to be manipulated, distorted, reversed, compressed or stretched out just as any other resources at hand. Still, cinema was the ultimate medium to play with these elements at will to create realities never before experienced by viewers.

Right from the very earliest experiments with the motion picture directors like George Meliès, Edwin S. Porter and David Griffith played with vanishing effects, jumps in time, and used editing techniques to compress, expand, freeze or reverse time. In addition they allowed viewers to go from one place to another, to experience the feeling of being "simultaneously here and there", as observed by Hugo Münsterberg[119] (Kern 71). For the Futurists the cinema "offered a synthesis of life in the world," and in their 1916 manifesto they hailed the cinema's ability to "give the intelligence a prodigious sense of simultaneity and omnipresence" (Kern 71-72). As for the possibilities of the motion picture to manipulate space, the camera could show the viewer different angles, distances and points of view, and editing allowed quick shifts to break up spatial coherence (Kern 143). This multiplication of points of view "created a new way of seeing and rendering objects in space and challenged the traditional notion of its homogeneity" (Kern 140); it challenged the order imposed on the perception of space since Alberti formulated the rules of perspective to allow for the representation of a harmonious worldview. "Indeed, the movement of the image and the mechanics of editing and montage contradict the idea of a consistent, positioned "single point" perspective frame" (Friedberg 83). For viewers who were accustomed to theatre where they saw the action from a single angle in the same frame, from an unchanging distance, this new artform opened up a new world to their

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[119] Hugo Münsterberg (1863-1916) was a pioneer in applied psychology at the turn of the twentieth century.

imagination, a world where time and space are no longer bound by perspective's measurable logic. Motion picture photography participated in producing a "new postperspectival language of vision" (Friedberg 120), yet Hubert Damisch in *The Origin of Perspective* (1995) maintained that thanks to photography, film and video, audiences are much more massively informed by the perspective paradigm than was the fifteenth century viewer (Friedberg 2).[120] Through most of the cinematic century, the dominant form for the moving image was a single image in a single frame. The fractured modernisms of postperspectival techniques that multiply and layer the planes of representation were "strategies that remained only exceptions, experiments, the "avant-garde," in the vernacular forms of moving-image media" (Friedberg 2).

Perspective placed restrictions on the viewer who was "immobilized by the logic of the system" (qtd in Friedberg 35),[121] and although moving images provide the potential for deconstructed space rendition, they most often do so sequentially and within a fixed frame. For this reason, many theorists argue that just like the frame of perspective, the frame of the camera and the screen form a fixed and centred view for the spectator, a culmination of the Western philosophical tradition of a transcendental disembodied observing subject

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[120] There is some misunderstanding about single-point perspective in Renaissance painting that assumes that it was "mono-scenic", that it detailed a unified pictorial space frozen in a single frame. There are many examples of frescoes, panels and reliefs that are "polyscenic", that contain a continuous narrative in a single frame (Friedberg 36). And even Alberti never intended for his technique of linear perspective to be used for a realistic representation of "pictorial space with the effect of window-gazing" (Friedberg 35).

[121] Quote from Lew Andrews *Story and Space in the Renaissance Art: The Rebirth of Continous Narrative* (2001), 35.

(Friedberg 78-80).[122] These theorists argue that regardless of film's inherent fractured construction, the spectator remains (re)centred by both the projection technique and the narrative that restores the continuity of movement, space and temporal dimension; Friedberg argues that it is rather the frame itself that creates the condition for a spectator that is immobile, noncorporeal, in front of a mobile image: "the frame of the image, the frame of the screen serves as the boundary demarcation between the screen world and the material world of the spectator" (Friedberg 84). But what happens when you combine different visualities and mobilities, the live (stage) and the apparatical (cinema)? Does the use of the cinema screen on a performance stage change the normally non-corporeal viewing of the cinema spectator since the audience can extend its corporeality to the stage and the actors? With screens on stage, the audience is confronted by multiple frames at once, frames within frames or next to other frames. They are then no longer in front of a single framed view, but a fractured space, even if what is projected on the screen(s) is a realistic representation. In this case, I would extend Friedberg's analysis of the computer screen space to the stage space: "As screens contain other screens in a nested *mise en abyme* of multiple frames, as quattrocento perspective is both fractured and multiplied, the "virtual window" opens onto a new logic of visuality, a time-architecture, framed and virtual" (18).

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[122] "The devices and techniques for perspective that relied on the monocular "point" of view of the artist also assumed that the viewer would occupy an equivalent position in relation to the image; that the viewer must apprehend the image from the same vantage as the painter. This conflation of "points" of view became of key importance to philosophers and is perhaps the reason that the philosophical paradigm of perspective may have overtaken its use as a practical device. For Descartes, and later for Heidegger, the "standing in front of" – observing from a fixed point in relation to a framed image – became equated with a philosophical position, (…), which transformed the world into a measurable object" (Friedberg 47-48).

Early experiments with film screens on stage: breaking the frame

Mise-en-scène or mise-en-cadre: the redefinition of time-space relations through 'montage'

As discussed in chapter one, the desire to shock a then mainly bourgeois audience out of its complacency made directors like Meyerhold, Eisenstein and Piscator re-evaluate the value of linear, literary-based narrative.[123] This reflection started as the growing need to represent the social and political unrest and the growing dissatisfaction with current staging methods pushed avant-garde theatre directors to search for a new stage language, a language that could reflect contemporary sensibilities. At a time when industry was imposing its fast-paced rhythms as well as its ever-growing machinery on the population, pulling the masses of workers down to the bottom of the capitalist pyramid, romantic melodramas of times long forgotten and their artificial painterly presentation seemed utterly inappropriate and disconnected from the real world outside the theatre. The search for a new stage language meant first and foremost breaking down traditional space and time unities: turning away from a linear narrative to the relativity and malleability of temporal references, as well as examining the shift from a naturalistic space ordered by sequential events to the distortion of traditional spatial references by a new mechanical intermediate. Cinema was for these theatre artists an ideal vehicle to bring new sensibilities to the stage.

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[123] There were many others who contributed to this re-evaluation of the relative importance of narrative, among whom Adolphe Appia, Edward Gordon Craig, Robert Edmond Jones, Georg Fuchs and Max Reindhardt are a few notable examples, but I choose to focus on these other theatre artists because of their direct ties to film, not only in their use of it on stage but also in their contribution to the specific development of montage techniques in film and theatre, based mostly on a socio-political renewal of theatre.

Though there were various attempts at redefining stage space based on rhythmic and lyrical movement of the actor's body, it was not until directors tried to create a political consciousness on stage that a true 'cinefication' of the theatre took shape.[124] Eisenstein articulated this tendency most clearly in his theory on 'montage of attractions'. He came to this theory by the necessity of the utilitarian theatre to guide the spectator in a desired direction using all the component parts of the theatrical apparatus (Eisenstein and Gerould 78). Eisenstein describes these 'components' or 'attractions' as:

> [any] element of the theatre that subjects the spectator to sensual or psychological impact, experimentally regulated and mathematically calculated to produce in him certain emotional shocks which, when placed in their proper sequence within the totality of the production, become the only means that enable the spectator to perceive the ideological side of what is being demonstrated - the ultimate ideological *conclusion*.
> (Eisenstein and Gerould 78)

The concern is no longer with creating representational illusory imitations of life or of developing psychological narratives with a clear progression from start of finish, but with building a "construction that has impact" (Eisenstein and Gerould 78), a free montage of arbitrarily selected independent 'attractions' with a view to establishing a certain final thematic effect (Eisenstein and Gerould 78).

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[124] There were others who, continuing in the steps of the late nineteenth century directors who used moving panoramas and phantasmagorias for atmospheric effect, used film in their plays, but there was not as much of a deliberate research for dramaturgical changes (see the work of E. F. Burian and his Theatregraph in the thirties).

With Piscator, this type of experiment with montage practices started early on with his agit-prop plays aimed at a large illiterate population. Like Yan Goll[125] who used film, projections of placards, newspaper writings and photographs in his productions, Piscator wished to “extend the spatial and temporal limitations of the stage, to document the events portrayed in a play and to comment on them” (Innes 18). When Piscator moved onto professional theatres and was asked to stage full-length plays at the Volksbühne, he used his roots in agit-prop to develop the ideas further in cabaret style shows. In *Red Revue* (1924) he staged fourteen separate scenes; instead of using acts and a logical unified plot, he used various performance styles like music, song, slide-projection, action-painting, aerobatics and sports, statistics and rhetoric, film, dance and acting, but all were linked by a single theme and intended to focus emotions rather than dissipate the audience’s attention (Innes 44). Piscator took the revue form even further with *Despite All!* (1925) in which he still used a montage of scenes but they were now connected by a sequential story instead of a static theme. Film sequences began to be used systematically on screens behind the actors. In productions such as this one, “photography, film and stage sequences interacted to build a composite picture of the war years and the activities of the communist leaders” (Innes 52). After *Despite All!* Piscator realised that film could be used to compress an entire event into an instantly impressive image. “Film [could] compress a time sequence or present a whole scene instantaneously to the eye . . .” (Innes 78) thus creating a kind of shorthand well-suited to Piscator’s propagandist agenda. With this type of work, time is treated as a variable that is transformable and diverse, reflecting how the cinema

[125] Yan Goll was one of the leading expressionists who used film in his productions as early as 1920. Piscator and Brecht greatly admired his work (Innes 17).

"[portrays] a variety of temporal phenomena that [plays] with the uniformity and the irreversibility of time" (Kern 29).

Fig. 23. Set for touring performance of *Lake Lyul*

As for experiments with cinematic spatiality on stage a notable early example is Meyerhold's production of *Lake Lyul* (1923) that portrayed the decadence of Western capitalism. In a constructivist setting designed by Victor Snestakov, Meyerhold used area lighting to constantly shift the action from one level to another (see fig. 23). Fully exploiting the construction to its limits, he even sometimes played two scenes simultaneously in different places (Meyerhold 190). In the same year, Eisenstein was experimenting with similar spatial discontinuity based on filmic principles of framing in his play *Enough Simplicity in Every Sage*. In it he intersected two different scenes in an intertwined montage showing the character Mamayev giving his instructions and of Glumov putting them into execution, Glumov running between two platforms on the arena shaped stage. "The surprising intersections of the two dialogues sharpen the characters and the play, quicken the tempo, and multiply the comic possibilities" (Eisenstein 10). In an un-produced play called *Precipice*, Eisenstein had planned to use running scenery – pieces of buildings and urban details connected to actors on roller-skates who 'cut and pasted' these pieces into scenes and created travelling shots of the city.

> These close-ups cut into views of a city became another link in our analysis, a film element that tried to fit itself into the stubborn stage. There are also

elements of double and multiple exposure – "superimposing" images of man onto images of buildings – all an attempt to interrelate man and his milieu in a single complicated display. (Eisenstein 14)

Both Meyerhold's use of simultaneous multi-level scene shifts and Einsenstein's 'cut and paste' staging methods are found in film as early as Méliès' experiments with the cinematograph. As opposed to Friedberg's analysis of the 'cinematic century', early films by avant-garde artists like Méliès and Eisenstein used the fractured spatio-temporal possibilities of the cinema to destabilise not (re)center the viewer. In Méliès' 1906 film *The Hilarious Posters*, a wall of six posters come to life as the drawn figures become living actors. In the bottom row these characters are life-size and cut at the waist to 'fit' into their posters, but, on the top row, there is a poster representing a group of men dancing and when they come to life, they retain the miniaturised size they had in the illustration; they establish a completely different space relationship, like a monitor superimposed in the frame of the poster. This movie exemplifies the first steps towards a redefinition of time-space relations, a redefinition that kept evolving for the next twenty years in film and theatre simultaneously, each one feeding into the other. In Méliès' films[126] the viewer encounters the kind of breaking up of space (framing) and simultaneous action (superimposing) that inspired Einsenstein's use of the 'shot' in film or the 'attraction' in theatre. What was in Méliès' case a free exploration of the new motion picture camera's 'magical' possibilities become with Eisenstein a carefully thought out theory to provoke the audience's intellect and imagination. As with Japanese haiku and ideograms Eisenstein believed that it was the

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[126] These types of experiments were present in other early filmmakers' work (see for example Edwin S. Porter's *Great Train Robbery* in 1903), however I am favouring Méliès' films because of their previously mentioned obvious connection to arts of the stage.

combination of two dissociated things that created an intellectual concept, by this collision the viewers are forced to use their imagination to make an association (Eisenstein 34).

> The shot appears as the cell of montage. Therefore it also must be considered from the viewpoint of *conflict*. Conflict within the shot is potential montage, in the development of its intensity shattering the quadrilateral cage of the shot and exploding its conflict into montage impulses *between* the montage pieces. (Eisenstein 38)

Eisenstein wrote this about framing and the breaking up of spatial logic in film, what he called *mise-en-cadre*, but it could just as well apply to the montage of 'attractions' in theatre, or the *mise-en-scène*. As a potential 'attraction' in theatre the use of film on stage could carry out this role of creating collision, conflict, breaking out of the frame of its screen and "exploding its conflict" onto the stage and into the audience. Most often however, even if film allowed a new materiality to enter onto the stage by its influence on acting methods, narrative and *mise-en-scène*, the projected image itself remained on the screen, separate from the stage action, and did not in itself challenge the perspectival plane of the projection space. It acted as a conflicting element as one part of the larger context of the *mise-en-scène,* adding a different layer and space plane, but its restrictions in terms of production[127] made it difficult to truly experiment with different spatialities and interaction with the stage space.

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[127] Production and equipment costs as well as the limited flexibility of the filming process.

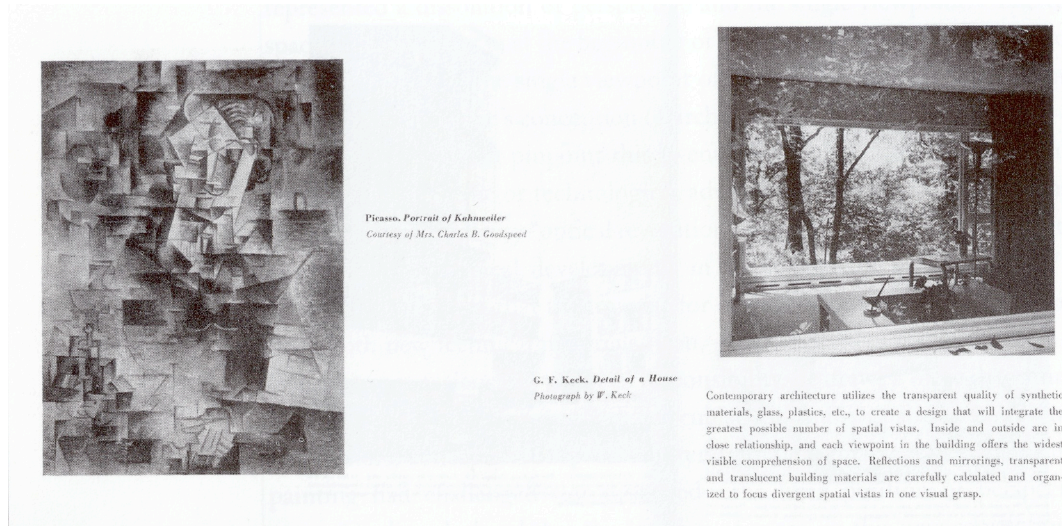

Fig. 24. Picasso's portrait of *Kahnweiler* and G. F. Keck's *Detail of a House*

The development of video, and later digital technologies, brought the explosion of the stage space further. According to Kostelanetz, the artists of the American avant-garde in the sixties and seventies used the impetus from early experiments with media to build a theatrical space that is more kinetic, "as our perception of it is continually changing" (Kostelanetz 123). As opposed to traditional architecture, sculpture and theatre, in which space was a static volume, "the new theatre resembles the new architecture in denying the traditionally clear distinction between inside and out, between what belongs to the structure and what does not" (Kostelanetz 123) (see fig. 24). These artists were also television spectators just as their audience was. With this generation 'zapping' became a technique just like 'montage' had thirty years earlier, and therefore the *mise-en-scène* was no longer about carefully constructing a message through conflicting and dialectic images, but about

developing a fragmented perception of the world in multiple images presented simultaneously, creating chaotic sensations (Picon-Vallin 18).

Video offered the possibility of breaking up the stage image 'live' by filming portions of the action and projecting it in real time, and it allowed for a much more flexible and immediate manipulation of the recorded image than cinema ever could. As such video introduced not only a dramaturgical extension to the action on stage but more importantly it could represent a sense of atomization of the stage (Picon-Vallin 21). The 'lightness' and malleability of video meant new possibilities for editing, the manipulation of objects and characters, which meant the possibility of going from a representational image to a presentational one. The moving image was no longer attached to representing external reality like the Lumière Cinematographe had done,[128] but could transform it to reflect on its artificiality; from the image of mechanical reproduction comes the image of technological transformability (Pilon-Vallin 24). The image captured by the camera reveals itself as true artifice; it does not need to follow the documentary purposes that Piscator imposed on it[129] but instead can freely examine and show all kinds of perceptual experiences, and therefore becomes attached to the subjective internal reality of life rather than to the objective external reality of politics. As witnessed by Richard Kostelanetz, this gave way to live performances that challenged not only the conventional experience of theatre but also the

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[128] Of course, Méliès and others had explored the artificial nature of film, but it was more about presenting tricks and illusions rather than self-reflection.

[129] As mentioned in note 124, there were theatre artists who used film sequences for non-documentary purposes at the same time, however they were mostly for background and atmospheric purposes and did not necessarily challenge perceptive methods as the American avant-garde artists did subsequently.

traditional means of communication and expression; not only are the word and text deconstructed and distrusted, but the image as well.

> For instance, Robert Whitman's *Prune.Flat.* (1965), which I consider to be among the best pieces, presents a fairly swift succession of images on film and of live action, sometimes separate and at other times combined. Often, the action on the screen is matched by an action on the stage, or the stage action sharply contrasts with what we remember of a similar image on film; occasionally, what is actually a filmed image deceives the audience into believing it is a staged activity. In *Prune.Flat.*, significant events are continually occurring and relating to earlier events; and through the strategies of repetition and variation, the piece establishes a major theme – the unusual nature and inherent deceptiveness of filmed images.[130] (Kostelanetz 283-84)

The avant-garde of the twenties and thirties initiated the deconstruction of the word and the text and forty years later in America the artists of the mixed-means theatre initiated the deconstruction of the image both projected and staged to more closely represent "the immediate and intimate realities we know" (Kostelanetz 277). With the development of digital technologies in the eighties and nineties, ideas put forth by the mixed-means theatre grew more widespread by technology's increasing ease of use and availability. Just as screens of all kinds become ubiquitous in every day life (television sets, computer screens, mobile devices…), so too is the stage inhabited by multiple screen technologies. Only now the use of screens is often far less about deconstruction and provocation and more about

[130] To view a video of this performance go to: http://www.ubu.com/film/whitman_1960s_Part3.html

a ‘posthuman’ existence that accepts its continuation, duplication and extension by means of technology; as proposed by McLuhan’s concept of “mediatized consciousness,” we and our surroundings are media itself (Dixon 153).

The space between: the stage in constant flux

The introduction of computer-generated images and digital display technologies has, in the space of two decades, radically transformed the space of the screen (Friedberg 193). According to Friedberg, the single-point perspective perpetuated through the twentieth century by narrative film and television has finally met its match with the multiplied ‘windows’ of the computer. Not only do “gravity-defying digital effects change the physical and temporal laws of the computer-rendered environment,” (Friedberg 193) but the space mapped onto the computer screen is composed of “windows” variable in size and stackable like piles of papers on a “desk”, implying “new haptics in the position of its user: in front of and above” and a screen that is both deep and flat (Friedberg 227).

> As a screen-based visual system, the “windows” interface subtly exponentiates what Erwin Panofsky described as the “unique and specific possibilities” of the cinema: the *dynamization of space* and the *spatialization of time.* On the computer, we can be two (or more) places at once, in two (or more) time frames, in two (or more) modes of identity, in a fractured post-Cartesian cyberspace, cybertime. (Friedberg 235)

In live performance, the conjunction of the stage and digital projection technology can produce a hybrid form of experience comparable to Friedberg’s description of the computer screen, or to Alain Virmaux’s description of Artaud’s film scenarios: “something which is neither theater nor film, but partakes of the evanescent reality of dreams” (qtd in

Dixon 337).[131] Like Artaud, Robert Edmond Jones is a forefather of this type of hybrid performance and has a strong kinship to contemporary digital performance practice. In "The Theatre of the Future" (1943),[132] Jones envisions a new drama using projection technologies to explore "the vast, shadowy, inner region of the self which we have learned to call subconscious" expressed in the universal language of images; "images that move and speak in the depths of the self, the dynamic images of our dreams" (Jones, *Towards a New Theatre* 26). He imagined a stage surrounded by film screens, above, behind and around the setting in which the live actors play onto which to project these images that are "subjective - disembodied, evanescent - appearing out of nothingness, vanishing into nothingness, a thought, a memory, a dream (…)" (Jones, *Towards a New Theatre* 27). This space that plays with the combined realities of dreams and life, evanescence and corporeality, subjectivity and objectivity, disembodiment and embodiment, is a "space in between,"[133] "a liminal space operating between the screen images and the live performers" (Dixon 337). In this space, it is not so much the material existence of the environment that is fundamental, but the dynamics of this space in relation to the performers and spectators; the stage is now in a constant state of flux. In the words of

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[131] Quote from Alain Vimaux "Artaud and Film" *TDR: Tulane Drama Review* (1966), 165.

[132] It is difficult to pin point exactly when Jones wrote this essay. It was recorded in its latest form in 1952 as part of a lecture series he gave at Harvard, but as early as 1929 he already put forth the basic ideas of this text in the *Encyclopaedia Britannica* (*Towards a New Theatre* 3-4, 10-11).

[133] Margaret Morse, Elizabeth Grosz and Sarah Rubidge argue that the "space in between" is central to the artistic forms and spectator experience of video installations, architecture and immersive artworks (Dixon 337). See Morse "Video Installation Art: The Body, The Image and the Space-in-between" (1997) in *Illuminating Video*; Grosz "In Between: The Natural in Architecture and Culture" (2001) in *Architecture from the Outside: Essays on Virtual and Real Space*; Rubidge "Bodying the Space in Between" (2001), Proceedings of Consciousness Reframed III.

Elizabeth Grosz, the stage is “always in the process of becoming but never realised… the space *of* the in between” (qtd in Dixon 337).

Svoboda’s psycho-plastic space: from Wagner to digital illusionism

Fig. 25. Svoboda’s Laterna Magika, Expo ’58, Brussels

One of the first and most influential theatre artists to experiment with this type of dynamic, multi-layered and pluralistic understanding of stage space was Josef Svoboda with his Laterna Magika theatre and other experimental stage techniques developed in his lab at the Prague National Theatre.[134] Svoboda’s early work with the Laterna Magika was in a similar fashion as Piscator’s and the Russian avant-garde’s use of film combined with live action, but his experimentation with various projection methods, materials and

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[134] As its name suggests Svoboda’s Laterna Magika pays tribute to a long history of different types of illusionist projection techniques in the theatre, dating back to Anthansius Kircher’s magic lantern (laterna magica) in the seventeenth century and all the way up to the holographic effects of the phantasmagorias of the nineteenth century. But none of these techniques had the “plurality of film” (Burian, *The Scenography of J. S.* 77).

technologies, including possibly the earliest use of closed-circuit television on stage,[135] and the level of complexity of his stage designs had a direct influence on contemporary digital performance artists as an early master of spatial illusion (Dixon 338). The complexity of Svoboda's use of projection as early as 1958 is well illustrated in this description of the Laterna Magika exhibit at the Brussels world Fair (see fig. 25):

> It 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. In a stage space measuring approximately 50'x 24'x 20' were arranged eight types of mobile screens with special, highly directional reflecting surfaces; they 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. (Burian, *The Scenography of J. S.* 85)

With the Laterna Magika, Jones' dream of juxtaposing the live action of the stage with a symbolic and poetic use of film, created especially for the production and completely integrated and responsive to the stage action, became a reality. Svoboda aimed for "a synthesis and fusion of actors and projection" (Burian, *The Scenography of J. S*. 83) in which one cannot exist without the other, in which the film has a dramatic function, thus creating a stage image that is dynamic, multi-levelled and suggestive. This image not only

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[135] In a 1965 production of Luigi Nomo's opera *Intoleranza* in Boston, Svoboda used television projection and videotape for the first time in opera, freeing the actors from being slaves to previously made film. He projected television images onto multiple screens on stage and transmitted parallel actions recorded in adjoining studios, as well as using live replays to confront the actors to their recorded image (Burian, *The Scenography of J. S.* 103).

appealed to the contemporary technological sensitivities of its audience, just as Renaissance perspectivism had appealed to its contemporaries, but it also embodied the kind of total stage environment and complete orchestration of mediums that Wagner aimed for. As part of the lineage that links Wagner to generations of theatre artists who believe in the idea of a 'total theatre' and reinterpreting the *Gesamtkuntswerk* of grand stage illusion with new technologies,[136] Svoboda claimed that technologies like film projections are "sources of enriched stage performance," that "they expand the spectrum of theatre art" (Burian, *Svoboda, Wagner* 4).

With a distinct technological freedom, Svoboda went beyond the Laterna Magika's use of projected still and moving images as elements that serve mostly as a new and changeable background, to the idea of projection as a plastic material that can take on the architectural qualities of the stage space as well as its texture, shape and mobility. He used projection technologies as a means of expression that supported his fundamental principle for scenic design: dynamism, in the sense of responsiveness, change and movement. To Appia's 'Living Art', Svoboda proposes his 'psycho-plastic space' that is elastic in its shape and alterable in its quality: a three-dimensional, transformable space that is maximally responsive to the psychic pulse of the dramatic action (Burian, *The Scenography of J. S*. 30). The flat screen from the Laterna Magika was replaced with all kinds of different materials such as specially developed cycloramas that allowed front and rear projection,[137]

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[136] The George Coates Performance Work is a contemporary company that extends the visual tradition of spatial illusions developed by Svoboda. They use media projections to create simulated scenography and spatial environments, replacing conventional sets with videated or virtual sets composed of projected light (Dixon 338).

[137] This is not to say that these experiments came after the Laterna Magika experiment. In fact most of these techniques evolved simultaneously.

or sophisticated mirrors that could both reflect an onstage image and receive another projected one, or varying types of organic fabrics and wire screening that allowed for layering and transparencies (see fig. 26). More often then not, Svoboda used sophisticated combinations of these techniques to obtain a vast range of effects and angles that broke down the traditional barriers of the screen and produced multi-layered, elusive, at times impressionistic spaces. These had the ability to give actual substance to the immaterial light of projections, as if the actors moved through the images.

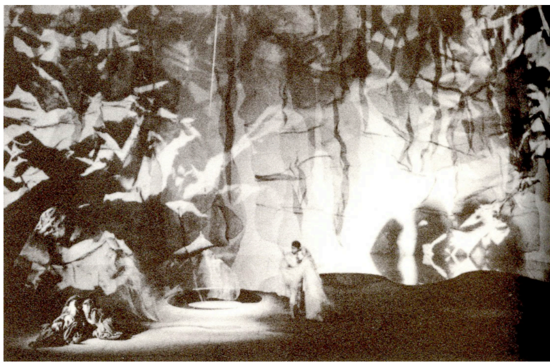

Fig. 26. Svoboda's design for *Pelléas and Melisande* (1969)

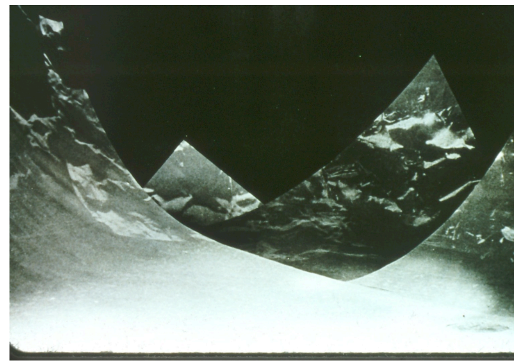

Fig. 27. Svoboda's design for *Raduz and Mahulena*

At other times he used projections of both still and moving images on surfaces that defined space in a distinctly architectonic manner; the projection surfaces were no longer diffuse, abstract layers of images and colors but part of the ground on which actors walked, at one with the other built elements of the scenography. In the 1970 production of *Raduz and Mahulena* (see fig. 27), Svoboda conceived a scenography composed of several pyramidal shapes extending from the floor that represented mountain peaks and which could be raised or lowered to modify the proportions of the space (Burian, *The Scenography of J. S.* 71). On the peaks were projected abstract images that took on the architectural qualities of these three-dimensional surfaces while adding the atmospheric

and suggestive qualities of the projected image. In *The Flying Dutchman* (1969) Svoboda used a combination of several screens and mirrors with a built set that represented the bow of a ship (see fig. 28). The front of the ship literally jutted out of the screens making the projections seem to be intricately woven into the architecture of the stage setting. With examples such as these appears a stage space that is no longer based on frames, a conception of the moving image no longer confined to a screen, and a relationship to the projected image that is no longer perspectival but fluid, changeable and at times abstract.

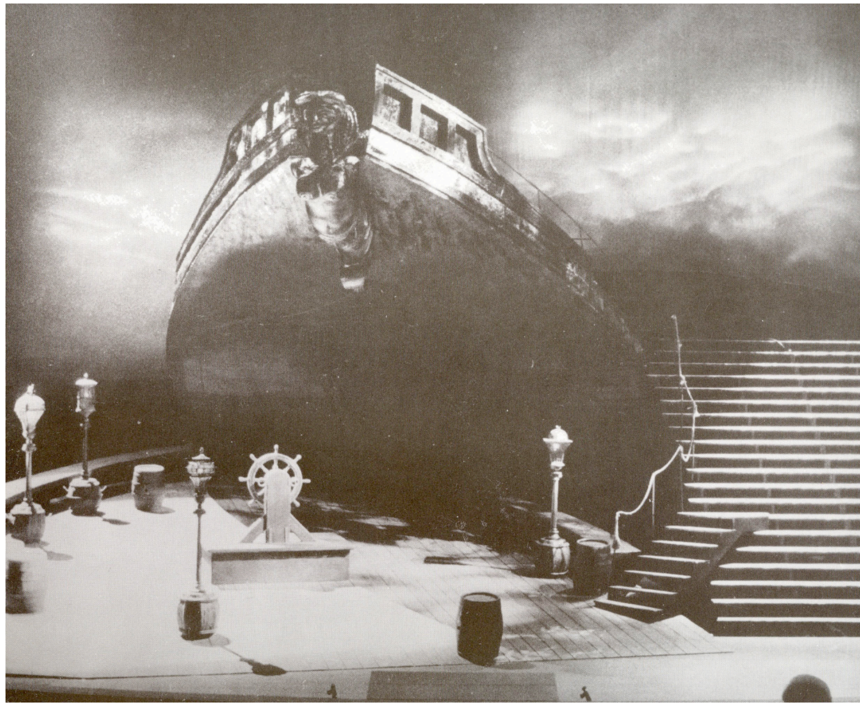

Fig. 28. Svoboda's design for Wagner's *The Flying Dutchman*

Have we really broken through the screen?

Svoboda, in his varied experimentation with moving image projections in alliance with all kinds of other kinetic and optical techniques, demonstrates that it is possible to think of the projection screen as an element of spatial construction that can function in the

same three-dimensional volume as the actor. And yet, looking through his overwhelmingly numerous productions,[138] the most noticeably architectural spaces are those that use merely built forms and light as materialised substance (see fig. 29). In my opinion, these stage spaces are the ones that most strikingly act as true counterparts to the actors' bodies by their weight, structure and composition in space. And with the materialisation of 'walls of light' they take on the atmospheric transformability of the scenes. These are the designs I think most embody Appia's ideal of the 'living space' defined by the conflicting and expressive mutuality between bodily forms and inanimate forms (see fig. 30).

> This [square] column rests with no base, on horizontal slabs. It gives an impression of solidity, of power to resist. A body approaches. Out of the contrast between its movement and the quiet immobility of the column is born a sensation of expressive life, a sensation that the body without the column or the column without the advancing body could not have evoked. (…) Finally the body leans against the column, the latter's immobility offers a point of solid support: the column resists; it acts! The opposition has created life in the inanimate form; the space has become living! (Appia, *Living Art* 28)

[138] Of course it is difficult to get a real sense of the production by looking at photographs. Only actually experiencing the production can do justice to the scenography, but I feel these photos still reveal some truth about the stage space.

Fig. 29. Svoboda's design for Verdi's *Sicillian Vespers* (1974)

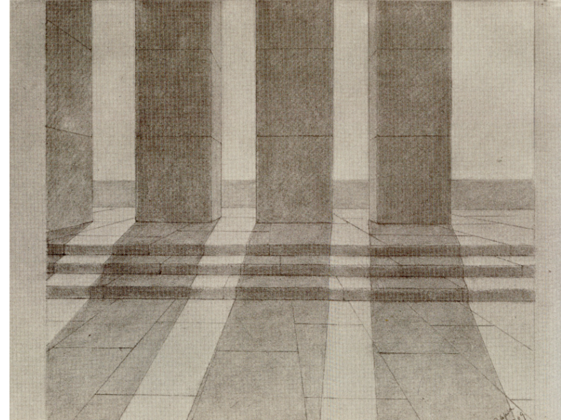

Fig. 30. Appia's rhythmic space, *The Three Pillars,* 1909

Even in his more experimental uses of projection, Svoboda tends at times towards a layering of flat projection surfaces. In his *Tannhaüser* (1973) production, though he uses projection for very atmospheric purposes and to define the stage space with varying colours and textures, the images are projected on flat cut-outs of organic or abstract shapes that move in space. This kind of configuration can almost be seen as a technically refined and modernised version of the painted Torelli fly system (see fig. 31). In fact, apart from the differing nature of the image on the surface, the abstractedness of both image and surface, how is this stage space any different in relation to the actor's presence from the painted forests, skies and streets of the nineteenth century? In such configurations, the use of projections is more painterly than it is architectural and thus it struggles to belong or to relate to the

Fig. 31. Svoboda's model for *Tannhäuser*

time-space reality of the actor.

Screens are getting bigger all the time, as if wanting to engulf the entire space of the stage, pushing the actors aside and trapping them at the forefront of the stage. Is this the stage of the future? Is our future bringing us back to Wagner who placed the actor far enough down stage so as to not clash with the painted, flat scenery? Robert Lepage is a contemporary "super-league multimedia theater practitioner" (Dixon 351), following in Svoboda's path as an ingenious master of intermedia spectacle and mutating theatrical space. Lepage combines a heritage of both a deconstructive, Brechtian, cinematic-theatre of the constructivist avant-garde of the twenties,[139] with the rich illusionist aesthetics of Wagner through to Svoboda, using in various combinations inventive mechanical sets, kinetic screens and mirrors, video and multimedia projections, computer-generated imagery and interactive programming, always with daring intentions of playing with space configurations.[140] "In Lepage's productions, spaces visually morph, mutate, and transform, often with thrilling speed and theatrical impact" (Dixon 351). Yet when I saw the 2005

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[139] The Builders Association's work serves as a contemporary example of this type of aesthetic, a cool, post-Brechtian and postmodern use of media projections, highlighting their artificiality and revealing the media as media (Dixon 344-47). See also the work of the Wooster Group.

[140] Through my conversations with Robert Lepage for this research, I understood that his creative process was much more about exploration, inventiveness, trial and error, and artistic instinct than about proving or putting into play a profound artistic theory, as some academics make it seem. His work is not one of an academic or artist-researcher, but clearly one of a practitioner artist with impeccable instincts, a fertile imagination and an almost childlike sense of play. This is not to say that Lepage is not intelligent or profound, but it would be misleading to represent him as an academic or a theorist; clearly for Lepage the most important part of the work is the creative process, and not the final result, and once that process is done it is on to the next experiment, the next project. Lepage leaves the thorough analysis of the results of these experiments up to the academics. You could almost say that he unassumingly dismisses the intellectual depth of his work, but the proof of his intelligence lies in the rich material that he leaves behind for those who wish to analyse it.

production of *The Andersen Project*, I could not help but feel that the actor, in this case Lepage himself, was uncomfortably confined to a narrow forestage, most of the depth of the stage masked by a giant projection screen the width of the proscenium. In front of the screen was a conveyor belt traveling set pieces (telephone cabins, trees, computer terminals, and other accessories) on and off stage, in a sometimes strikingly cinematic effect. Nevertheless the most important piece of the scenography was the giant screen and the locations it portrayed, jumping from the nineteenth century to current times appropriately represented by different imagery styles from paintings and etchings to graffiti and digital photography. The screen however was not perfectly flat: the bottom part of it was curved and solid enough for Lepage to walk up onto the image surface, joining the floor to the screen. In one scene he is sitting in a seat perched onto the curved part of the screen and the projected image is the view out of the rear window of a moving train. In another scene, he is slowly walking up the grand staircase inside the Paris Opera Garnier (see fig. 32), a 3-D computer-generated model of the building projected and rotating in real-time to follow Lepage's progression up the stairs, creating the illusion, helped by the echoed sound of his footsteps in the empty space, that he is actually climbing the stairs and the screen. These scenes exemplify the desire to create a concrete interaction with the projected image in an

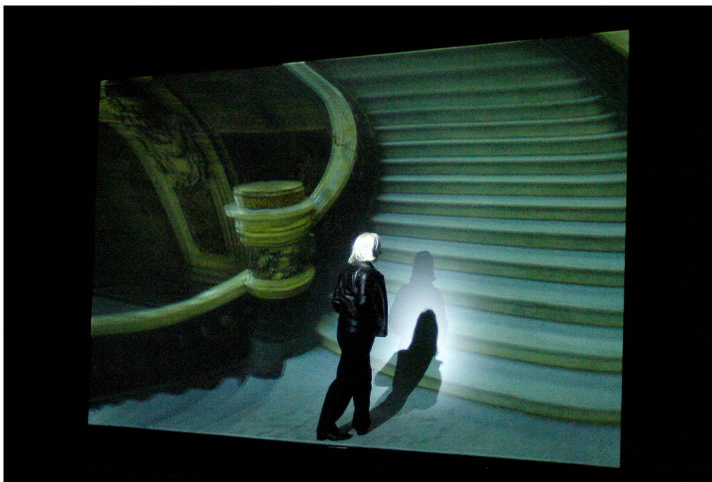

Fig. 32. Lepage climbing virtual stairs in *The Andersen Project* Photo: Érick Labbé

architectural sense, not just an illusory interaction as is the case with 'Virtual Reality' (VR) experiments in live performance, which could be seen as attempts to reinvest the stage with three-dimensionality.

Virtual Reality: reinvesting three-dimensionality on stage, reality or illusion?

Since the early 1990s theatre artists like Mark Reaney have been using VR[141] software and projection technology to bring a sense of immersion to a completely computer-generated universe on the stage. In these types of productions, spectators are equipped with a viewing device (3-D polarised glasses or head mounted displays), and the actors perform in front of or behind projection screens displaying stereo-optically polarised VR imagery, which can be manipulated in real-time by an operator in order to allow the actors to move through the simulated spaces or to change the background in relation to the movements of the onstage actors or developing dramatic action (Dixon 385).[142] In principle, VR performances may seem like the realisation of the Futurists' once fanciful dreams of "the illuminating stage" - "luminous dynamic architectures" that "will irradiate the colors demanded by the theatrical action with all its emotional power" (qtd in Dixon 54).[143]

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[141] Originally, VR was an industrial computer graphics format simulating navigable three-dimensional environments based on three principles: immersion, i.e. being surrounded by a three-dimensional world; the ability to walk around in that world and choose your own point of view; and manipulation, i.e. being able to reach in and manipulate it (Dixon 364). The use of VR in a theatrical context is therefore quite different from this solo user-controlled immersive interaction since the audience, unlike the user, remains at a considerable distance from the action and the projection screens are limited in size because of budget constraints, curbing the feeling of complete visual immersion (Dixon 389).

[142] As in *The Adding Machine* (1995), an early production of the Institute for the Exploration of Virtual Realities, where the actors performed in front of a rear projection screen displaying stereo-optically polarised VR imagery, which the audience viewed through 3-D polarised glasses, and which were operated live by an offstage technician (Dixon 385).

[143] Quote from Enrico Prampolini's 1915 manifesto, *Futurist Scenography*.

In their vision, however, the Futurists also replace the live actor with “authentic actor-gases” - “vibrations, luminous forms (produced by electric currents and colored gases)” (qtd in Dixon 54). In contrast, in Mark Reaney’s Institute for the Exploration of Virtual Realities (ieVR) productions, the live actors are still there, on stage, surrounded by settings they cannot see, touch or feel. In *Machinal* (1999) the character Helen is in a virtual hospital room with a computer-generated 3-D bed, drip-feed and bedside light all seemingly suspended in space, and as she struggles with increasing desperation the point of view of the image moves higher and higher away from the room until it becomes invisible (Dixon 387). But throughout the scene there is nothing that the actor can physically confront or interact with, rendering the furniture and setting purely accessory, only there to create a picture, a visual effect, not to support the actor’s performance.

Unfortunately though, in the case of these early attempts at complete virtual reality in theatre, the ‘picture’ is not in fact that aesthetically pleasing or convincing. When I saw the renderings of the computer-generated settings from the company’s website,[144] I felt like I was looking at early generation, small budget video games, and I find it difficult to believe that some critics have suggested that ieVR’s experiments may be equivalent in importance to theatrical development as the introduction of stage lighting (Dixon 389).[145] I would rather agree with others who think that with virtual reality “we are witnessing an ever more exact

[144] See ieVR website at: http://www2.ku.edu/%7Eievr/shows.html

[145] Dixon quotes Thomas W. Loughin from Mary C. Cage “Actors Joined by Computer Imagery in U. of Kansas Production” in *Chronicle of Higher Education* (1995), 18.

and complete aesthetic sterilization of the image" (qtd in Dixon 372),[146] and I would add of the stage. This type of completely digitised scenography eliminates any possibility for expressive confrontation between the performer and the environment, or spatial experimentation with the performer's body.[147] If, as Peter Brook believes, "a certain crude element" is part of theatre's "natural soil" (66), a "roughness of texture and a conscious mingling of opposites" (88), then a performance that eliminates this confrontational element through absolute digital illusionism in my mind is no different from a 3-D film. It destroys the connection between the stage and the audience as well as those special conditions that allow an active bond not possible in cinema between spectator and performer: "[the] sense of danger, of community and of shared experience" in a shared space (Mackintosh 2).

The theatre = movie house? The stage = movie screen?

Like the architecture of the stage the architecture of theatre auditoriums has, for most of the twentieth century, been strongly influenced by movie theatre architecture that prioritises sightlines to the 'stage picture' above all else (Mackintosh 2). What most

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[146] Quote from Marina Grzinic "Exposure, Time, the Aura, and Telerobotics" in *The Robot in the Garden: Telerobotics and the Telepistemology in the Age of the Internet* edited by Ken Goldberg (2001), 316-317. In "A Small History of Photography" Benjamin argues that the longer the exposure time of the photograph, the more a sense of aura is woven into the image, and that technological advances allowing shorter exposure times had a negative effect on the sense of time, space and aura in photography. Grzinic takes this argument further proposing that the fast processing time of computers has similarly led to the loss of a sense of time and aura in digital images, and that VR is the most unauratic of all digital forms (Dixon 371).

[147] Dixon notes that VR-based performance has not continued to develop much because of two impeding issues: cost and time. It is extremely time-consuming, and therefore costly, to program and design the thousands of polygons defining the 3-D spaces and objects (Dixon 393). This is easy to understand with one look at the budget for a 3-D movie; stage productions never have these kinds of budgets. However, certain visual effects of VR, such as a performer-immersing digital stage environment, can be reproduced at lesser costs with conventional projection techniques, and the same critique of a sterilization of the image would apply.

historians view as the beginning of the modern movement in theatre, the design of Wagner's *Festspielhaus*, was also, perhaps paradoxically, according to Mackintosh, cinematic rather than theatrical. The naturalistic stage pictures were seen behind a black frame and in a darkened auditorium "as images on a cinema screen were viewed half a century later" (Mackintosh 41-43), establishing viewing conditions like those of the immobilised viewer of perspectival pictures. The frame of the proscenium became identified with the frame of the film screen in a way that was materialised in the actual architecture of theatre buildings. In the 1920s, many new American cinema houses were modeled after 'legitimate' theatre auditoriums in style and decoration (proscenium arch, large curtain, balcony, plasterwork…), but they were much bigger to accommodate larger audiences more comfortably, and thus became too big for the vaudeville live performances that often accompanied films at this time (Mackintosh 72). The function of the building was to dazzle and impress from the entrance to the lobby until the lights dimmed, transporting the paying customers "to a fantasy world" (Mackintosh 73). The audience was "in communion with something outside their experience, a polychromatic architectural orgy which framed a monochromatic silver screen on which new gods and goddesses appeared. This audience was awestruck and passive, not active and involved" (Mackintosh 73). The interaction of the spectators with each other and with the performer was no longer relevant; the seats all faced one way, and sightlines to the screen were of paramount concern. These movie palaces were often confused with old legitimate theatres in America, and this confusion led to the oversimplified design of modern proscenium theatres becoming merely a question of sightline formulae (Mackintosh 76).

Although many projection practices, including VR environments, claim to bypass this issue of imposing strict sightlines and thus frontal spectatorship with increasingly

immersive 3-D settings,[148] in practice it is usually the opposite that occurs. In a recent production in Montreal, *Paradis perdu* (2009) directed by Dominic Champagne, the company claimed to have discovered a revolutionary ("*novateur*")[149] projection technique that allowed the creation of a 3-D illusion without the need for any adaptive viewing device, basically a 3-D film without glasses in combination with live performers. From my understanding and from what I observed when I attended a performance, the set up consisted of an arrangement of scrims in front of and behind the stage that received front and rear projections as well as a raked floor with projections covering it from above.[150] The overall effect was supposed to erase any trace of the screens and give the illusion that the projected images of an imagined Eden inhabited the same space as the live performers and even protruded forward out of the proscenium frame. Unfortunately, as I suspected, if illusion there was it was only perceivable from an ideal frontal position. From where I was seated on the mezzanine house left the presence of the screens was quite obvious and the projected images remained in their confines. I could not help but sense an unnerving barrier between the stage and the audience and that the whole performance was an excuse for lavish video projections (though admittedly sometimes quite beautiful).[151]

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[148] In the case of actual VR settings, immersion includes the audience that is brought "into" the performance space by way of 3-D glasses.

[149] In Alain de Repentigny's article "*Paradis perdu* invente la 3D pour la scène" (*Cyberpresse*, 13 Jan 2010, web, accessed 14 Aug 2010), the author quotes Pierre Raymond, a technical collaborator on the show, who said "I have never seen what *Paradis perdu* does in any live show to date" (my translation from french). Pierre Raymond is the head of Hybride Technologies, a Montreal based company specialised in stereoscopic film techniques and effects.

[150] Although I contacted the video designer for this production, Olivier Goulet, to get a direct account of the scenography and projection system, I was never able to get an interview.

[151] It did not help that the text and choreography were of little interest, but that is for another discussion. The reviewers in *La Presse* and *The Gazette* echo my sentiments on this point.

Can the digital stage find its shadow?

Productions like these, I believe, are no different from the lavish naturalistic extravaganzas of the late nineteenth century in their drive towards the ideal image, inevitably superseding the performance. Not only are the actors trapped in environments that they are not really a part of, but their bodies lose their expressive potential by erasing their shadow, literally. In his study of the body in space, Appia recognised that lighting had the power to bring out this potential by accentuating the movements of the body and its volume in architectural space, like chiariscuro, an impalpable bond unifying the stage and the body in a three-dimensional world,[152] but, with illusionistic projected environments like VR or immersive projections, lighting, like the performer, becomes trapped and subordinated to the image technology. Because light from another source can wash out the image from the projectors, stage lighting has to be limited in its role and is often relegated to quasi pin-lighting, there only to separate the actors from their projected surroundings, as was the case with *Paradis perdu* and ieVR productions.[153] Because there are no structural pieces for light to animate in space and because the body of the actor struggles to belong to its *virtual* surroundings, the stage becomes in effect devoid of any shadows; there is only moving light with nowhere to rest. When I see productions like these, I am reminded of Lepage who said that with the evolution of technology in the twentieth century theatre has erased the 'shadow' of the actor, and I would add of the whole stage, thereby killing theatricality (Picon-Vallin 327).

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[152] From Lee Simonson's "Foreword" in Appia's *Music and the Art of the Theatre* (1962), xi-xiii.

[153] This situation is also evident in Dixon's description of George Coates Performance Work productions: "Coates and his designers (most notably Jerome Serlin) use precision lighting to illuminate the actors without defusing the projections around them, and to reveal or obscure the performers by rendering intricate screens and blinds transparent or opaque" (Dixon 338).

Fig. 33. Lepage's *Image Mill* Photo: Michel Loiselle

However, just as there is a powerful theatricality evoked with the meeting of the 'shadow' double and the actor,[154] I believe there can also be a powerful theatricality in the meeting of the architectural stage and its 'light double', the moving light of projection, in the meeting of the pictorial and the architectural. I was convinced of this when I saw Robert Lepage's *Image Mill* in Quebec City in the summer of 2008, an architectural multimedia spectacle that projected moving images onto giant silos (see fig. 33 and 34). The architecture, the three-dimensional structure, was the inspiration and

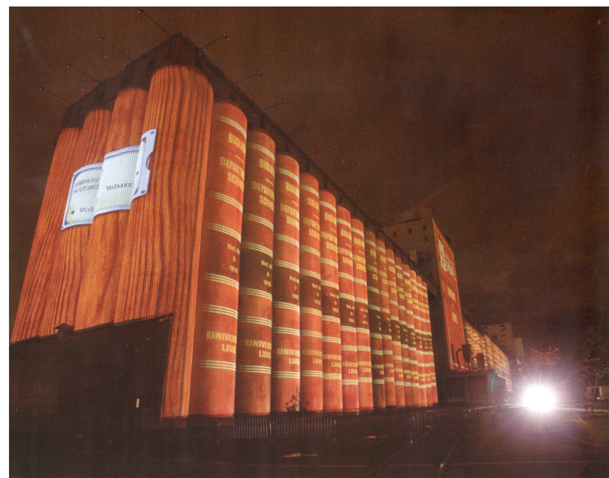

Fig. 34. Lepage's *Image Mill* Photo: Nicolas Ruel

[154] See chapter two.

driving force behind the creation and *construction* of the video images; they embraced its shapes, volumes, rhythms and its shadows; the architecture literally came to life in a way that I have never seen on stage. Of course, there were no actors and the scale of the show was much larger than anything possible on a stage, but when I met Lepage I realised he too had noticed this potential and was working towards a materialisation of the moving image *on stage*, the way Appia had worked towards a materialisation of light.

In an upcoming production of Wagner's *Ring Cycle* (2010-2014) for the Metropolitan Opera in New York, Lepage and his team of creators[155] are developing a scenographic concept based on a mechanical structure that fuses the expressivity of kinetic architecture with the poetics of moving images. The articulated motorised stage structure can morph into various architectural configurations and the digital video projections are programmed to follow every movement while themselves morphing to transform the environment into the different guises of Wagner's fantastical universe (see fig. 35). The intention is to create a set that performers can inhabit, walk on, climb on, play with physically, moving in and out of its shadows, while using image technologies to add a layer of meaning and expression, to extend the architecture into an imaginary (virtual) world, to make it at times solid and others fluid, at times opaque and at times transparent, at times like a screen and at others like a wall. In architecture theory, the functions of the architectural and the virtual window have converged in the screen (Friedberg 103), and with the advancements in glass manufacturing, "the window would effectively become the wall"

[155] Carl Filion (set designer), Étienne Boucher (lighting designer), Boris Firquet (video artist), Holger Förterer (interactive video designer), and Realisations.net (interactive content designers).

Fig. 35. Workshop photo from Lepage's upcoming *Ring* Photo: Yves Renaud/Metropolitan Opera

(Friedberg 115).[156] "If we put these developments in confluence with the corresponding history of moving images and their *framed virtuality*, a remarkable set of exchanges begin to appear: as the window becomes the wall and the wall becomes a window, the wall also becomes a screen and the screen becomes a window" (Friedberg 123).[157] The virtual window of the screen, like Alberti's windowed canvas, relies on its opacity; "its highly

[156] Freidberg makes an interesting parallel between debates on the changing shape of the window in modern architecture and debates on the shape of the screen in the 1930s. Le Corbusier argued against an upright rectangular "French window", or the perspectival window, in favor of a horizontal, panoramic window that flattened the perspective depth of view and interestingly corresponded to the space of the movie screen and camera (Freidberg 127). However, earlier on, the film screen itself went through a debate regarding its shape and size; in 1931, Eisenstein argued for a screen with changeable proportions of the projected picture, a "dynamic square", consistent with the frame of the screen as a "window on the world", but the screen retained the official aspect ratio as we know it today because it was considered crucial for setting the conditions for spectatorship (Freidberg 131).

[157] With Le Corbusier, the modern house became not only a "dwelling machine" but also a viewing machine, thanks to the revision of the function of the window, no longer for ventilation but for increased visibility and light (Freidberg 123); as such, "the house becomes a "system for taking pictures", a system of views the way a filmmaker effects the montage of a film" (Freidberg 127).

mediated modulation of light provides an aperture: not to a reality, but to a delimited *virtuality*" (Friedberg 138). And Friedberg believes that this "virtual window" will continue to transform our conception of architectural space, as light becomes a "building element in a newly *immaterial* architecture" (151) (see fig. 36). From the stage as a Constructivist computer screen, with its frames within frames and fractured spatio-temporal structure, to the stage as a Futurist luminous immersive scenography, a better understanding of how the moving image has affected, and will continue to affect, our vision of stage space is possible. Perhaps now, we will be able to understand how to fully profit from the potential of the *virtual* image within the three-dimensional 'frame' of the stage; perhaps now the built environment of the stage will bring its materiality to the projected image while the image will keep shifting this materiality, architecture in constant flux.

Fig. 36. Lepage's *Image Mill* Photo: Nicolas Ruel

Conclusion

In the introduction of this thesis, I referred to the dilemma that has lasted approximately a hundred years about whether the use of media technologies was 'good' or 'bad' for the stage, whether or not they interfere with the 'purity' of the live form of theatre. I mentioned the contrasting opinions of those who, like Grotowski, advocate for a certain 'poverty' to reconnect with the essence of theatre, "the actor-spectator relationship of perceptual, direct, 'live' communion" (qtd in Dixon 27),[158] and those who follow the notion that there perhaps never was such a reduced concept of theatrical performance in history to support the practice of a contemporary *Gesamtkunstwerk* augmented by virtual projection technologies, the notion that theatre performance has always included various artistic practices and technologies to enhance the experience. I said that I was not so much concerned with choosing a side in this debate as with analysing how these technologies, through their evolution in the twentieth century, have affected the way we think about performance and the way we perform, what consequences the proliferation of screens and virtual characters and environments have had on the non-virtual elements of the stage. Throughout this analysis I have concentrated mainly on shows that followed this lineage of the *Gesamtkunstwerk*. In the conclusion of this study however, I would like to take a second look at the notion of certain essential elements of live performance and the potential dangers of technological dominance,[159] as well as bring forward some key points pulled from my readings and from interviews conducted with intermedia theatre practitioners.

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[158] Quote from Jerzy Grotowski *Towards a Poor Theatre* (1968), 19.

[159] Philip Auslander asserts that today the digital is a cultural and aesthetic dominant over the live in performances with increasing undifferentiation between live and mediatised forms (Dixon 123).

In 2003, Patrice Pavis, one of the most respected academics in theatre and performance studies, published an essay voicing concerns about the state of millennium theatre, pleading a passionate humanist case for the live body and theatrical text in the face of technological spectacles and digital and robotic performance forms (Dixon 648). He used Robert Lepage's *Zulu Time* (1999) to exemplify his fears that "every technology, every computer is a foreign body at the heart of theatrical performance" (qtd in Dixon 648).[160] He says that the stage machinery, robots, and video and digital effects swamp the human beings, and that the audience searches in vain to connect with a speaking, living body; the performer's body is pulled into the machine, no longer able to be itself (Dixon 648). "So much technology talks so much it forgets what it is talking about, it becomes an end in itself, and exhausts us" (qtd in Dixon 648).[161] Although I have not seen *Zulu Time* and have rarely felt this way about a Lepage show,[162] I can think of many examples where these words ring true, such as the previously discussed *Paradis perdu* (2009). In such pieces, everything seems planned for or around the display of technology, and projection technologies especially, "to the point where the last traces of life and humanity are made to disappear" (qtd in Dixon 650),[163] engulfed in the superseding image. But Pavis's criticism is not based on a conservative resistance to technology's incursion into theatre, he goes further to suggest that the role of the performer has changed fundamentally within this

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[160] Quote from Patrice Pavis "Afterword: Contemporary Dramatic Writings and the New Technologies" in *Trans-global Readings: Crossing Theatrical Boundaries* edited by Cariad Svich (2003), 188.

[161] Ibid., 189.

[162] Lepage admits himself that he has sometimes gone to the extreme, but it is always in the spirit of an artistic experimentation and an intuitive learning process (Lepage, personal interview, 17 Mar 2009).

[163] Op. cit.

context of battling expressions (the technological and the human), a context in which the posthuman technologised theatre has the upper hand on age-old humanism for good (Dixon 650). Many, including Dixon, would say that we live in a posthuman[164] world and that the theatre of today should reflect this reality; as Baudelaire said, the modern artist is "one who knows how to see and to perpetuate the beauty of his own time" (Dixon 656). Our own time includes constant exposure and interaction with media technologies, with screens and virtual worlds and characters; cyberspace and avatars are the extension of our reality and our entitles. In this posthuman view of the world, "the question of embodiment is erased or short-circuited" (Dixon 152).

Finding the human among posthumans: concluding remarks on the performer

According to the posthuman view, I am an exemplary specimen of the cyborg human-machine fusion.[165] My body cannot perform the simplest activities without electronic or digital aids, and therefore I should feel one with my wheelchair, as it should be part of my body. However, this could not be farther from my experience. I have come to realise that I have a much more 'embodied' experience than most people who can easily ignore their limbs because they work as they should. This is partly why I have a hard time accepting a theory of performance that does not differentiate between the human body and its digital

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[164] Posthuman refers to the idea of media (or technology) as the extension of the human body found in Marshall McLuhan's 1964 book *Understanding Media: "The Extension of Man"* (Dixon 147). Michel Foucault and Ihab Hassan coined the term in 1976 at the International Symposium On Post-modern Performance (Dixon 150). See also Ihab Hassan, *Prometheus as Performer: Towards a Posthuman Culture?* ; and Katherine Hayles, *How We Became Posthuman: Virtual Bodies In Cybernetics, Literature, And Informatics* (1999).

[165] Dixon compares interactive or cybernetic systems to physical aids for the disabled which are considered as part of the same body because they are all part of a single information flow and feedback system. He extrapolates to say that digital manifestations of performers (even telepresence) are part of the performer's body (Dixon 149).

counterpart, or that thinks of live and mediatised bodies as the same (Dixon 153). If posthuman perspectives implicitly "confirm that the corporeality or virtualization of a body matters little to the acts it performs, nor the theater or dance it creates" (Dixon 153), I propose a different perspective that reminds us of the importance of corporeality. Granted, I am probably an exception and many cultural theorists maintain that the Cartesian split in culture and society is widening as people sit watching screens and monitors (Dixon 214). As we move from box to box, from our car to our apartment watching our mobile phones and our televisions, there is a general disappearance of the body. It becomes more and more difficult to realise that we are not just an idea; we need extreme sports and other physical extremities to remind ourselves that our bodies exist, that they are what keep us alive (Lemieux).[166] But even artists like Michel Lemieux and Victor Pilon, known for their work with intermedia performers, state that despite this reality the live actor cannot be replaced or it will be the end of theatre.[167] I would go further and add that perhaps the live performer's place on stage today should be rethought.

In chapter two, I reviewed the different ways in which the performer's role was changed by newly appearing media on stage and by the contemporaneous social and artistic contexts. First, film brought a sense of documentary realism to reach the masses at a time of socio-political unrest, then video offered sensory multiplicity in a time when art sought to emulate the phenomenological experience of life, and finally the whole gamut of digital technologies introduced a sense of transiency and immateriality at a time when everyday experience is highly mediated. I discussed how actors went from being the main

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[166] Lemieux and Pilon, personal interview, 25 Sept 2008.

[167] Lemieux and Pilon, personal interview, 25 Sept 2008.

message bearers to an expressive means among other staging elements, to being a media among other media with which they could blend into or use to extend their performance, to a body with a shifting presence that could be entirely virtual, entirely present, or both at once. I concluded the chapter by recognising that part of the attraction for the stage has always been the tension between mimetic illusion and present reality, and the same attraction could be seen in the cohabitation of the multiple incarnations of the actor, live or virtual. As much as I agree that there is the place on stage for both the live and the virtual performer, I also believe that it is important to understand and underline their differences.

Although it is clear that live performance is as much based on absence as it is on presence, partly due to its essential ephemerality, I tend to agree with Phaedra Bell who argues that as opposed to cinema and video, whose significance is always presented through absence (since the actors and props are not physically there), theatre's constituents are always fully present, therefore audiences do not read recorded and theatrical signs the same way (Dixon 126). As Merleau-Ponty said, electronic images "are too far from having its *(the "real")* density to enter in to competition with it… we cannot compare the two" (qtd in Dixon 154).[168] Computer-generated bodies have no matter, no plenitude, no blood, no organs, no fragility; they are weightless, without mass, without difficult personalities or habits, they are infallible, unendurable, consistent; they react at the touch of a button; they have no intimate relationship to their own form, no volition (Dixon 232).[169] And even recorded virtual bodies, whether live feed or pre-taped, are but digital pulses projecting light onto a screen that can disappear at the flick of a switch. The virtual

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[168] Quote from Maurice Merleau-Ponty *The Visible and The Invisible* (1968), 7. Italics my addition.

[169] From an excerpt of Kimberly Bertosik's essay "Technogenderbody" (2000).

performer is a controllable body that has no relation to the Artaudian sense of *physical temptation* of the stage. Although certain theorists use Artaud's writings to support the strength of the virtual performer,[170] his call for a new performer was very much based on the physicality of the human body, its movement in space and time, its capacity to create a physical poetry on stage. Artaud mingled ideas of magic, metaphysics and 'virtual' arts with the concept of a concrete physical language directed to all the senses, but when he used the terms 'virtual' and 'virtual reality' he was referring to his notion that theatre does not carry its end or reality within itself (Artaud 48). Similarly to Friedberg's use of virtuality he conceives the language of the stage to be a virtual double (made of concrete matter) of a deeper reality that exists in the mind of the spectator (Artaud 48-52); I do not believe it is meant to be taken in the way that we understand 'virtual' as a bodiless mediatised other, but quite the opposite. Artaud did acknowledge that scientific advancements could be useful to the stage (123) to support and magnify the images created by his "many-hued spatial language" (63) that utilises the stage space "not only in its dimensions and volume but, so to speak, *in its undersides (dans ses dessous)*" (124); but it was always the physical and the concrete that shaped the language of the performer and the form of the stage. Artists like Artaud, Appia and Meyerhold made a plea a hundred years ago for the living actor, and saw in the body and movements of the performer the answer to the problem of scenic space. A hundred years later, I think their lessons are still invaluable and should be revisited by every young designer who might be enthralled by the lure of sleek virtual projections.

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[170] Dixon says "Artaud's call for the use of giant stage mannequins in *The Theater and Its Double* has thus been answered in myriad ways within digital performance, from avatars and robots to virtual dancers, to the reduction of the live human body itself to a puppet, manipulated by audiences at a distance" (268).

Finding the body in space: concluding remarks on the design of stage space

With Appia, the physicality of the performer's body is inseparable from the design of the stage space, which responds to its movements and corporeality with architectural structures that utilise the space in all degrees of perspective. Artaud warned against turning one's back to the physical necessity of the stage and its possibilities (71) and this included the embodiment of the stage space. In defence of virtual performers, Dixon argues that they are not to be taken as emblems of disembodiment but that it is the medium (recorded or digital) that is disembodied, not the human performer within it (215). He states that "audiences cognitively and empathetically perceive the performing virtual *human* body (as opposed to a computer simulated body) as always already embodied material flesh," and that performers generally share the perception that their recorded actions used as virtual manifestations are "fully embodied actions of body and mind" (215). This premise, however, assumes that embodiment is only concerned with the performer's body and mind within themselves, that to be embodied a performance need only to be created by the sole presence of a human body and mind, but this does not take into account the environment in which the performance takes place. As illustrated in chapter three, the actor in theatre does not perform in a vacuum, and I believe embodiment has as much to do with the environment surrounding the actor than with the mind-body split.[171]

Though the appearance of virtual bodies on stage might be seen as a reflection or an expression of the widening Cartesian split in our daily lives, projecting ourselves in virtual

[171] In cinema however there are of course more and more cases of actors performing in a sort of void, in front of a blue or green screen. I am not suggesting that these performances are disembodied or somehow less authentic than if they were filmed in a real setting. I am solely concerned here with performances in a live context, and in this context the stage and its spatial construction are vital constituents of the act of performing.

worlds (cyberspace), I sustain that the role of the virtual performer is different from that of the live performer and that the live performer should be the driving force behind the performance. In a similar way, though one could argue that the use of virtual environments on stage reflects or expresses how virtual reality is almost omnipresent in our lives, I maintain that stage designers should be wary of the *stage-body* split. With cinema, television, cyberspace and other screens perforating every living space, people are constantly projected into virtual reality and engaged in activities that distance them from physical reality (Lemieux).[172] Pilon agrees that it will become more difficult to discern where virtuality ends and reality begins in interactions with our environment, but in their stage practice, the artists of 4D Art insist that they always start with a concrete reality: "We work on the meeting of reality with the immaterial, but in the beginning you need a reality, you need a stage, an audience, you need a setting and actors on stage. And in that we inject bits and pieces of virtual reality. It is where and when reality and virtuality meet that becomes interesting".[173]

In chapter three, I discussed how the stage underwent a progressive cinefication and mediatisation in the construction of stage pictures; how, with the advent of screens and projected media, concepts of space and time became yielding materials to be manipulated, distorted and assembled to express a new dramaturgy no longer based on words, a non-literary, non-linear narrative. Through this process, with roots in the writings of Wagner, the director became the main storyteller and images became the main building blocks of the drama. As the avant-garde theatre of the twenties and thirties distanced itself

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[172] Lemieux and Pilon, personal interview, 25 Sept 2008.

[173] Lemieux and Pilon, personal interview, 25 Sept 2008.

from literary bourgeois drama, it turned to other means of communication in the actor's body rather than words and in modern image technologies rather than traditional stagecraft. This was the beginning of image-based theatre where space and time are deconstructed and reconstructed by a new cinematic mind. I explained how, as image technologies progressed, the incursion of virtual images into the stage space increased until, today, digital projection technologies now allow fully projected settings that can potentially respond to the actors' movements. I concluded the chapter by referring to Friedberg's notion that architecture is in the process of a transformation towards virtuality, as windows (glass) become walls and the view through these window-walls is being replaced by a virtual view since screens are replacing natural apertures (windows).[174] This confirms in a way that screens and virtual imagery have their place on the stage, whether in a (de)constructivist cinematic/computer aesthetic or in an immersive virtual scenography, and I strongly believe in the transformational and poetic capacities of the digital image. But I expressly use architectural theory references because, as with the live performer, stage architecture is part of the physical necessity of live performance, and just as there are significant differences in the live and virtual actor, I want to stress the differences between present stage architecture and immaterial projection techniques.

There is, for one, the obvious contrast between the actor and the projection, which do not live in the same dimensions; even if the projection screens completely surround

[174] "In some way, you can read the importance given today to glass and transparency as a metaphor of the disappearance of matter. It anticipated the media buildings in some Asian cities with facades entirely made of screens. In a certain sense, the screen became the last wall. No wall out of stone, but of screens showing images" (quote from Paul Virilio's 1993 interview "Architecture in the Age of Its Virtual Disappearance") (qtd in Friedberg 183).

them, actors can not *physically*[175] interact with the objects in the image, climb on them, touch them, push them… without destroying the *illusion* of three-dimensionality in the projection. As a result, projected images are often limited to a descriptive background or used as "a hole in reality,"[176] a fracture in the fabric of the stage, or to demarcate a new "mixed reality" space (Dixon 410), allowing a juxtaposition of scales, from the infinitely small to the infinitely large, from the real to the imagined, leaving and re-entering the box of the stage without actually retreating from it (Picon-Vallin 27). Even with these abilities screens do not concretely participate in or physically enhance the performance of the actors, but serve as a juxtaposed means of expression that supports the creation of the stage *picture* for the spectators.

Finding the human in the auditorium: concluding remarks on spectatorship

Just as the stage environment can enhance the actor's performance and thus contribute to a successful theatrical occasion, I showed how it is also important to consider the shared environment of the stage and auditorium together, which "[provides] the opportunity for the spark of performance to ignite the conflagration of communication" (Mackintosh 2) *between* the stage performers and their *audience*; here too architecture is at the heart of the matter. In chapter three, I asked the question whether the initial vision of using moving image technologies to explode the stage space and break the frame of logical perspective spatiality has carried through, or if, as with film and television, we are not perpetuating a perspectival visuality that implies passive spectatorship. Iain Mackintosh

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[175] As opposed to technological (virtual) interactions that can be digitally programmed.

[176] Expression used by Slavoj Zizek in "Die Virtualisierung des Herr," quoted and translated by Andrea Zapp *Networked Narrative Environments as Imaginary Spaces of Being* (2004), 75 (qtd in Dixon 410).

argues that, since the establishment of cinema, architects have failed to understand these environmental conditions of dynamic spectatorship by equating the stage picture to the film screen in terms of the configuration of the theatre auditorium (Mackintosh 2). With projection screens on stage, this danger becomes very real as sightlines to the stage become about the ideal viewing relation to the screen. In his study of theatre buildings since the Shakespearian stage, Mackintosh makes some interesting observations on playhouses that have proven across the years to provide a dynamic relationship between actors and audience,[177] observations that I want to bring forward in this conclusion because they are sound and pertinent in questioning the role of digital technologies in theatre. The idea that strikes me above all is that of 'Man' being the measure of all things, including theatre architecture (Mackintosh 38), both in a practical manner in terms of the ideal stage-auditorium distances and directionality for an actor to effectively play to the audience, as well as from a philosophical standpoint, inspired by neo-platonic principles of 'sacred geometry' and progressive harmonies (Mackintosh 162) and by the oldest treatise on theatre architecture in the world, the ancient Sanskrit text of *Natya Shastra* by Bharata (Mackintosh 164).[178] In these ancient references philosophy, geometry and mysticism are brought together to create a science of theatre building in which all measurements are based on a human scale and use dimensions related to the human body, and in which these rules create a harmonious space which supports the mystery of theatre (Mackintosh

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[177] To establish if a certain auditorium could create a strong dynamic relationship Mackintosh uses architectural analysis, first person accounts of architects, theatre critics, directors and actors, as well as box office statistics and reports. Interestingly, he even refers to an experiment in which a behavioral scientist measured the capacity of the audience to be roused in different theatre environments (81-82).

[178] In Alberti's description of perspective painting, the human body also served as the standard of reference for the composition of the picture (Friedberg 33).

164-68).[179] Mackintosh believes that such an approach is needed in modern theatre architecture because it has become too preoccupied with large houses that can accommodate large audiences comfortably and with perfect sightlines to a picture frame view of the stage, rather than striving to "produce harmonious space in which the human spirit can express itself through the body and the voice" (Mackintosh 167). When architectural and engineering advances allowed for the construction of both auditoriums with increased seating capacity (with the introduction of the steel cantilever) (Mackintosh 38) and more elaborate staging effects, the human scale started to lose its place on stage and in the theatre, and it may still be losing ground.

A human approach to architecture and theatre seems refreshing and timely when it appears the human scale is disappearing, in a postmodern context where technological reproduction and imaging forces us to question the reality of reality and where the performer struggles not to be a projection (Marranca and Dasgupta 99). But is it simple nostalgia that makes me cling to the human factor in theatre and gravitate towards writers who promote the human basis of performance? Mackintosh goes so far as to suggest we should be distrustful of scenographers and stage design, and that a bare stage in a "well-shaped place" should be sufficient to make magic happen (160). While that might be true in certain cases, and while it is certainly true that elaborate scenic design, whether digital, mechanical or *trompe l'oeil* illusionistic, does not guarantee good theatrical energy, I cannot ignore the poetic and dramatic potential of a well conceived stage design including current

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[179] Mackintosh refers also to certain modern architects who understood 'progressive harmonies': "For instance, Le Corbusier's 'modular' system, which was the discipline that determined the proportions of all elements in his later domestic buildings, was the product of studying the human body in standing, sitting and leaning positions and then plotting the points on a rigorously precise Fibonacci series" (167).

technological means that speak to contemporary issues. Am I faced with an irreconcilable paradox between a theatre that should reflect its time (a technologised era populated by mediatised images and languages) to remain relevant and a theatre that should reconnect with its human origin (human in scale, form and expression) to remain 'alive'? This is probably the bigger question behind my initial enquiry of what happens when a projection screen is placed on a three-dimensional stage with live performers.

From conflict comes resolution?

I have found part of the answer in a common thread that kept reappearing throughout most of my readings and conversations with practitioners. Mackintosh's reference to an architectural approach to theatre building that combines mystical or sacred notions with science and the human body as a vessel channelling and communicating an energetic force to other assembled humans connects to Goodall's analysis of the complex nature of stage presence, where seemingly opposing forces (mysticism vs. science, inspiration vs. training, life vs. death…) are also at play. In 1951 French actor Jean-Louis Barrault theorised all art as a confrontation of one element against another: "a brush rubs a canvas; a pen scrapes paper; a hammer strikes a string" (qtd in Dixon 335).[180] I have come to realise that this is especially true about theatre where every kind of confrontation can be exposed and reconciled both on stage and through the exchange between stage and audience. Theatre is a confrontation where "a Human Being struggles in space" (qtd in Dixon 335);[181] it is also "the arena where a living confrontation can take place" between performers and spectators because "[the] focus of a large group of people creates a unique

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[180] Quote from Jean-Louis Barrault *Reflections on the Theatre* (1951), 61.

[181] Ibid.

intensity" that isolates and exposes the forces ruling our lives (Brook 99). Brook says the principle of theatre is "one of rubbing two sticks together. This friction of unyielding opposites makes fire – and other forms of combustion can be obtained in the same way" (51). It is also where the invisible and the visible collide; where we seek to make visible the invisible, like Artaud and Brook who try to reach an invisible truth through visible signs, striving to reveal the metaphysical through the physical.[182] But continually facing defeat, Brook says, we have to accept that the invisible is never fully revealed and we must be brought back down to earth (Brook 61-62). Brook brings together not only the metaphysical with the concrete to show the invisible, but the 'Holy Theatre' with the 'Rough Theatre' to show all the hidden impulses of Man. These oppositions bring about the most vivid relationships between people and create the conditions for a stage that is as moving as life, both mortal and continually renewing itself (Brook 16).

On this stage built on relativity, moving forces, and opposing materials, illusions materialise and disappear in a living illusionism that is not the lesser opposite of reality. Illusion and reality are instead brought together in a composition that "keeps the dart of the imagination at play" (Brook 79). In this theatre, the stage designer is like "the editor of an Alice-Through-the-Looking-Glass film, cutting dynamic material in shapes, before this material has yet come into being" (Brook 102); the stage designer must conceive an incomplete design, one that is 'open' as opposed to 'shut', a design that has clarity without

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[182] Brook calls the Holy Theatre, The Theatre of the Invisible-Made-Visible (42), and relates it to Artaud's call for a theatre that "[works] like the plague, by intoxication, by infection, by analogy, by magic; a theatre in which the play, the event itself, stands in place of a text" (49). He also connects it to Shakespeare who made ideas and images collide through words (49), a lost art according to Brook, and to Oriental teachings that make the visibility of the invisible a life's work by understanding the conditions in which this can occur (56). Therefore, "[a] holy theatre not only presents the invisible but also offers conditions that make its perception possible" (56).

rigidity (Brook 101); the stage designer must think of a design as being all the time in motion, in action, in relation to what the actor brings to a scene as it unfolds, in terms of the fourth dimension, the passage of time – "not the stage picture, but the stage *moving picture*" (italics my emphasis, Brook 102). And perhaps on this stage of renewable theatricality, the paradox between current technological imaging techniques and the three-dimensional presence of stage and performer is not irreconcilable. Perhaps the stage is just the place to create such confrontations that open the audience's minds to new realities, that challenge what is real and what is imagined, what is human and what is machine, what is material and what is incorporeal, what is depth and what is surface, what is built and what is image. Still, I believe the only way the stage can function as a virtual[183] space where these opposites are dynamically bridged together is if the vital human elements of body and embodied space are the starting point, not the afterthought of a mediatised aesthetic.

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[183] I use the term 'virtual' here in its original purpose as defined by Anne Friedberg (see introduction).

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