TOWARDS AN AESTHETICS OF THEATRE TECHNOLOGY

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ABSTRACT

This thesis establishes groundwork for producing an aesthetic language for theatre technology by creating and testing a model for looking at theatre technologies in a critical manner. This model has several functions: Firstly it identifies theatre technology as something which can have a specific or a psycho-plastic scenographic effect. Through processes of re-invigoration and diversification the model allows a device to be regarded in its own context while historiologically allowing for precedent technologies to be acknowledged and compared. Lastly, because the model is ouroboric, self-consuming, it accounts for theatre technologies to be able to interpolate (and be interpolated by) other technologies whilst maintaining its own aesthetic integrity. This allows a critic to treat technology as a text rather than as a medium, and therefore enables it to be closely "read" as a text of the stage affording the technology a content of its own.

Through problematising this model against theories of media and re-mediation, the thesis observes that the common critical position in theatre and performance studies is to treat theatre technology merely as a theatrical technē -- a tool or craft of the art. The arguments presented in the thesis reposition theatre technology from the position of craft to a position of art -- as alētheia, an artistic truth revealed through poiētic means.

In the repositioning of attitudes towards technology, and by identifying theatre technologies as separate alētheuein, this thesis is then able to investigate theatre technologies aesthetically. Examining the contexts of technologies through the ouroboric model, and then critically studying their content, usage and meaning textually, this thesis is able to take a theatrical technological effect and begin to identify its affect. It posits that technology as an art in its own right can be aesthetically criticised and awarded meaning of equal weight to other elements of performance and theatre art.
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INTRODUCTION

This thesis argues that theatre technology has an aesthetic quality: its own particular beauty and meaning, distinct in nature and sensibility from other textures of performance. This quality is largely ignored by theatre theory and criticism or subsumed by qualitative discussions of other theatrical or performative elements of stage art. It is the aim of this study to found a critical language for examining theatre technology aesthetically: to identify its independent elements and demonstrate how the varied essences of theatre technologies interrelate with each other forming a distinct but supplemental theory of theatre. It is not the aim of this study to be an aesthetics or a poetics of theatre technology, it only aims to establish the need for a poetical or aesthetical study of the subject matter. The study contains case studies of wood-stage technology, theatrical illusion and audio-visual technology, and will examine other stage technologies in a more generalised way. The theories produced through these case studies have palpable and far reaching implications in the fields of lighting, sound and of "new" and "digital" technologies. As the thesis progresses, it will become clear that the theories postulated have a relevance for examining any technologies that are situated within a theatrical or performative frame.

This research attempts to build upon Christopher Baugh's aesthetic observations of scenographic development found in Theatre, Performance and Technology; the Development of Scenography in the Twentieth Century (2005), but avoid the traps of writing a history. I wish to create a foundation of critical analysis upon which an aesthetic language of theatre technology can be built; a language which addresses the unique artistic elements of technologies within a theatrical
frame. In doing so I hope to disassemble some of the 'mistrust' alluded to by Scott Palmer, a 'mistrust borne out of a basic misunderstanding. Technology frustrates, it baffles and is often surrounded by mystery and its own jargon, which alienates those who do not speak the language.\[^{1}\] The language I will produce aims to overcome that mistrust and join the 'jargon' of the stage with the 'jargon' of technology.

**A Question Concerning Theatre Technology**

Martin Heidegger posits that 'a radar station is of course less simple than a weather vane'\[^{2}\]. The radar station is something not more complex or more advanced than the weather vane, but less simple, as if the technology of the radar station could one day be stripped back to its essence and be as *simple as* the weather vane. Heidegger's postulation proposes that the weather vane is close to an essence of technology, or at least it is a technology which endures in its least complex form. A radar station is something similar to the vane but not necessarily more sophisticated: it is not technology on an anthropological level, a level where the use of it advances the human condition. The radar station is far removed from the less complex, more essential qualities, which the weather vane, or a goblet, or a knife possesses in an almost absolute state of technology.\[^{3}\] Technology cannot of course ever be an absolute, it can only achieve its essence depending on its end and the means

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\[^{1}\] Scott Palmer, 'A Place to Play: Experimentation and Interactions between Technology and Performance' The Potentials of Spaces; The Theory and Practice of Scenography and Performance, ed. Alison Oddey, and Christine White. (Bristol: Intellect, 2006) 105-118.


\[^{3}\] For an anthropological definition of technology and the philosophies concerned see: Tim Ingold, The Perception of the Environment; Essays in Livelihood, Dwelling and Skill, (London: Routledge, 2000) 294-311
employed in its humanistic activity. The defining purpose of technology and the activities for which it is used are shifting and occluded concepts that are not easily separated or pinned. Heidegger asks: what is technology for? What human action is it involved with? 'We ask the question concerning technology when we ask what it is. Everyone knows the two statements which answer that question. One says: Technology is a means to an end. The other says: Technology is a human activity. The two definitions of technology belong together.' If staged drama is one of those human activities can the technology involved in the staging of it also be the end to its own means?

In 1958 the Czechoslovakian scenographer, Josef Svoboda, was asked a question in a survey: 'Does modern technology belong in modern theatre in the same way that an elevator belongs in a modern house?' He recounts his answer in his memoirs:

I thought the question was posed entirely incorrectly. Whether technology belongs in the theatre isn't an issue at all -- there can be no doubt that it does -- but what function does it have in it, and how does it function in the dramatic work? And you can't answer that with a formula.

There are several problematic issues in this extract, the first being the initial question. It does not ask in a straight forward manner what the function of theatre technology is, but instead loads the question with a negative slant, almost daring Svoboda to lose his temper with the poser of the question. An elevator does not of course belong in a modern house, certainly not now and definitely not in the 1950s Soviet state of Czechoslovakia. An elevator is an industrial luxury, one which in terms of cost and

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4 Heidegger 4.
6 Svoboda 17.
size and convenience cannot be afforded in a domicile, the implication being that theatre technology is also a costly, ill afforded and unnecessary luxury on stage. The question is a loaded one and Svoboda ignores it. This is problematic in itself; the interviewer obviously felt that it was pertinent. To ignore the question is not to dismiss it; it is just to move it to one side, a deflection which leaves the question only partially answered: it addresses the need for an elevator in a house, but not the justification. It is also important to realise that this question was posed to Josef Svoboda, the man who invented the light-curtain and had the lighting unit named and marketed after him.\(^7\) Svoboda was famous for his technologically spectacular scene designs, so the question seems geared and barbed towards his work. The question also echoes a general popular opinion and a concern about technology in theatre which evidences itself in the criticism of theatre journalists. It is also perceived by people such as Scott Palmer and myself in our personal experiences, and it is a concern that this study will address on several occasions.

The final point of interest in the extract is the question Svoboda himself poses and then does not answer: 'but what function does it have in it, and how does it function in the dramatic work'?\(^8\) Svoboda does not offer an answer outside of his catalogue of practical work, and even though scenographic practitioners throughout the twentieth century also work towards incorporating the technological into the scenographic, they too do not try to answer that question. Despite what Svoboda affirms in his statement, whether technology belongs in the theatre or not is an issue and has been since the early part of the nineteenth-century, and one which remains unexamined and unresolved. This thesis does not hope to resolve this issue, but it

\(^7\) The Svoboda was developed in co-operation with ADB lighting technologies and is still on sale today. ADB Lighting Technologies 25 Nov 2010 <http://www.adblighting.com/?page=productdetails&cat=1&subcat=12 >

\(^8\) Svoboda 17.
does hope to lay out the ground work for an aesthetic language which can be used to study theatre technology and help answer Svoboda's unanswered postulation.

**Crises in Drama and in Representation**

This study could easily use Martin Meisel's visual turn or evolving pictorial dramaturgy as a critical base for identifying a crisis in drama and artistic representation in the nineteenth century. However, this would render the discussion wholly scenographic. It is the aim of this thesis to steer between several theatre "conversations" where the topic of technology exists on the fringe of the discussion. Meisel's pictorial dramaturgy forms part of one of those discussions one of those discussions which he dates as starting with Edward Mayhew's *Stage Effect: or, The Principles Which Command Dramatic Success in the Theatre* (1840) which problematically identifies the situation of the drama with the effects of drama. Meisel argues that the divergence and convergence of those two critical terms in the nineteenth century within dramatic works created tensions which drove forms to shift towards the construction of the well-made play. Meisel's criticism grounds itself in the difference between 'illustration' and 'realization' in the novel, pictorial art and the theatre. This observation is useful for reflection upon nineteenth century theatrical practices and scholarship, but less useful for studying contemporary theatre and performance and the intermedial turn. What can be taken from this is the idea that the divergence and convergence between forms and terms did not end with the beginning of the well-made play.

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10 Meisel 29-37.
According to Peter Szondi, the twentieth-century theatre scholar, from the 1830s European drama was in crisis. As an attribution of hindsight, this is of course historically problematic. Jacky Bratton points out that some proponents of the theatre in the 1830s, such as William Archer, thought at the time drama was dying or dead altogether.\footnote{Jacky Bratton, \textit{New Readings in Theatre History}, (Cambridge: Cambridge University Press, 2003) 12-16.} It is as historically convenient for Szondi to take this period to begin his work as it is for this thesis to also attribute importance to the period because of Szondi, this reasoning will become clear later in this section. For Szondi it is during this period that the old literary form of drama had been deemed inadequate by the writers and actor managers of the stage. The new dramatic forms being explored by the dramatists of the day were fragmenting the literary forms into diverse components each exploring different issues within the drama. This transition is investigated by Szondi who contextualises the breakdown of the dramatic form, highlights the transitionary theories and identifies the twentieth century's 'rescue attempts'\footnote{Peter Szondi, \textit{Theory of the Modern Drama} ed., trans., Michael Hays (Minneapolis: University of Minesotta Press, 1987) 50.} and 'tentative solutions'\footnote{Szondi 63.} Writing in 1965, Szondi stated that the 'crisis experienced by drama at the end of the nineteenth century (as the literary form embodying the (1) [always] present, (2) interpersonal, (3) event) arose from a thematic transformation that replaced the members of this triad with their conceptual opposites.'\footnote{Szondi 45.} He categorises the shift of this triad into five different sections led by selected dramatists and their own theories: in the main he chooses Ibsen, Chekov, Maeterlinck, Strindberg and Hauptman. Szondi describes how each dramatist took elements from the literary form and used them to produce dramatic experiments: Ibsen experimented with how the past affected the interpersonal relationships of the
present, the interpersonal becoming intra personal. With such a fragmented and historically problematic beginning to the twentieth century set, Szondi then examines the various attempts made to recover the essence of the old literary drama through these conceptual opposites in what he terms the rescue attempts of naturalism, existentialism, the conversation play, and the one act play.

With such a great shift in the dramatic form, it is no surprise that each section brings with it a different performance aesthetic and methodology and a shift in the theatrical form; an alteration in the way the literary drama was presented in production. These rescue attempts he identifies also required quite a significant amount of change in the European theatrical traditions experienced by a visual shift in representational form. The openly staged drama where the representation of scene was built around a world of two-dimensionality and false perspective, altered to encompass a form of representation that was in the large part increasingly naturalistic, compact and quiet. Grand melodramas were closed down and packed away in favour of one-act plays based around naturalistic conversation. This had staging implications as well as literary ones: the cast of many and the grand painted cloth and paste-board scenery began to be replaced by smaller, static and more naturalistic set architectures, stage props, and box-set designs. The simple transitions from a play with many changes of scenery to a play with none effectively made redundant most of the engineering and custom architecture of the nineteenth century playhouse: flies, drums, sloats, shutters and stage machinery were not needed to present a single naturalistic drawing room set to a 160-seat auditorium.¹⁵

This transition had not just affected the literary form as identified by Szondi, and the visual form identified by Meisel, but also the physical form of the drama. The stage space was forced into fragmenting and reinventing itself to correspond to the changes evident in the new dramatic forms. Attached to the literary drama of the nineteenth century is a theatre which, in its development since the Elizabethans, stages the literary form of dramatic text and theatrically presents the work to an audience. The relationship between literary drama and theatrical presentation is so involved that with a crisis in drama, there therefore comes a crisis in representation. If the written and creative production of a dramatic text undergoes a crisis in the late nineteenth century then any presentation of a drama in crisis through theatrical production is itself in crisis. The crisis in representation is one that runs parallel to the dramatic one, but it is a crisis that is not necessarily concurrent nor wholly caused by the literary shifts.

Percy Fitzgerald in *The World Behind the Scenes* a text from 1881, alludes to a crisis of representation without ever calling it such. The allusion comes not from an exasperation of how reality and the representational seldom meet in a naturalistic way, but from observing the more pragmatic and materialistic gravities of *effect*:

All the great triumphs of modern stage effect date from the introduction of a strong light. When gas was introduced, it was found that a more gaudy display of colours could be effected; but it was the application of limelight that really threw open the glittering realms of fairyland to the scenic artist.16

William Murdock had invented gas lighting in 179217 and by the nineteenth century gas was widely used in large public buildings in the main cities of Europe. London had gas lighting in its streets by 1823 six years after Drury Lane, Covent Garden and

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17 Bill Williams, *A History of Light and Lighting* 21 Nov 2009
<http://www.mts.net/~william5/history/hol.htm>
the Lyceum were fully fitted out with gas lighting. Fitzgerald notes that this 'revolution' was used to an extent in all British theatres as soon as 'it was in the street' in 1803. Limelight was invented by Thomas Drummond in 1826, long before Fitzgerald's observation and shortly before Szondi attributes the earliest beginnings to the crisis in Drama. The crisis in representation had already begun behind the scenes when 'the glittering realms of fairyland' had been opened by technology. It is arguable that the crisis in drama was spurred into being by a crisis of representation: how does one effectively represent the 'glittering realms of fairyland' when the old ways or representing them are no longer believable or satisfying? Fitzgerald outlines the primary cause of this crisis in representation:

The mistake in modern scenery is to attempt to combine the hostile elements of pictorial or artificial distance, shadows, &c., with real effects of distance. Each must necessarily destroy the effects of the other. A real chair will make a painted chair look flat and poor, while the painted chair will make the real one look dull and prosy.

This is one of Fitzgerald's enduring insights demonstrating that the improvement in lighting standards in the theatre leads directly to a complication: the painted cloth, and by association all painted scenery cloths, are paintings which are beautiful works of art in their own right but are none-the-less works of art -- they represent the real, but they are not themselves real. This transition of the artistic to the real is reflected in one of the observations that Szondi makes: 'The internal contradiction in modern Drama . . . arises from the fact that a dynamic transformation of subject and object into each other in dramatic form is confronted by a static separation of the two in content.' Szondi's transference of subject and object is caused by the interpersonal

18 Williams 21 Nov 2009.
19 Fitzgerald 18.
20 Fitzgerald 8.
21 Szondi 46.
activity in drama which 'out of obedience to tradition, it still wants to express formally'\textsuperscript{22} This 'form' is also the transference of artistic representation and the real (represented artistically) which when presented together become contradictory as Fitzgerald points out.

Fitzgerald's example of the combination of the \textit{real} with the \textit{artificial} on stage causes an aesthetic conflict, a conflict which is further compacted by the theatre architecture itself in describing 'the "boards," always smooth, level, and deck-like, and which under the glare of light, destroy all illusion.'\textsuperscript{23} Every effort of the scene builder in Fitzgerald's theatre is thwarted by the lights, undone by a technology which in its ability to show the most fantastical of things also exposes the very real and tatty theatre floor, which serves as a constant reminder of the limitations of the illusion. The crisis in drama is here shadowed by the crisis in representation: the scenographic conflict between the \textit{illusion} of the real versus the \textit{actual} real.

This could be considered to be a somewhat Aristotelian argument about the imitation of life, a dilemma spoken of in Hegel's 1886 lecture on aesthetics, \textit{The End of Art}, where 'enjoyment and admiration... naturally grow frigid or chilled precisely in proportion to the resemblance of the copy to the natural type, or are even converted into tedium and repugnance.'\textsuperscript{24} In dramas noted for their increasing realism and naturalism culminating in confrontation with new forms, artifice which fails to capture the reality of the drama fails to be relevant because of the disconnection with the real, and the real fails to find a footing precisely because of its connection with the everyday. The drive for the stage representation to be ever more realistic further compounds the level of crisis; how far should the representations of

\textsuperscript{22} Szondi 46.

\textsuperscript{23} Fitzgerald 39

reality on the stage attempt to match the reality of the world, and at which point does it become tedious?

By the end of the nineteenth century the representation crisis was being moulded into a form by the direction the drama took towards a naturalistic stage setting. This was epitomised by Henry Irving's 1880 revival of The Corsican Brothers with 'the elaborate carved chimney-piece, solid doors with jambs a foot deep, and bolts and locks -- very different from the old days of "wobbling" canvas and light frames'\textsuperscript{25}. Even this stage opulence, going as far as to have tons of salt laid out in a few seconds to represent fresh snow\textsuperscript{26}. Years later such stage opulence would be inappropriate and seem to be insufficient for the likes of Strindberg who in restricting himself to a single set for Miss Julie in 1888 found that 'one is entitled to demand that it be realistic. Yet nothing is more difficult than to get a room on stage to resemble a real room.'\textsuperscript{27} Irving's sumptuous and expensive sets strived for a grand illusion of reality, later in Europe as the contexts changed and the crises deepened Strindberg strived for a smaller but somehow less achievable realism.

This crisis of representation is not addressed by Szondi as it does not form directly part of the crisis of drama, it is however addressed by the scene painters and designers of the time and by the designers of the late nineteenth and early twentieth-centuries in the stage reforming works of Edward Gordon Craig, Adolphe Appia, Georg Fuchs, Vesevolod Meyerhold and Alexander Tairov amongst others for whom the question of art's purpose and its method of representation is particularly resonant. Even though Strindberg made such important arguments for his type of reality indicative of the diversification of the drama in his time, a little over two decades

\textsuperscript{25} Fitzgerald 45.
later the movement led by the reformers of representation is in the opposite direction: in Russia, the director, Tairov, is seen to be desperately trying to rid his theatre of the naturalistic illusion that Strindberg had so desired. Speaking of the Mobile Theatre's work of 1907 and 1908, Tairov (writing in 1921) said that they 'had still not outgrown naturalistic illusions'. In one touring production they 'carted' around Russia the fabric of an entire real log cabin 'all so that the walls, God help us, might not shake when the actors touched them and reveal to the audience the terrible secret that there was scenery on the stage'.

Tairov was not alone in his dissatisfaction with realism, and as the dramatic crisis ground onwards, the reformists dealing with the crisis in representation were struggling against the tide of naturalism. In Britain, Edward Gordon Craig firmly believed in 1923 that 'A so called "real room" is what we present on stage today, . . . real and yet quite dead -- expressionless -- unable to act.' This echoed the earlier theories of Adolphe Appia working separately from Craig but theoretically in tandem, who thought in 1902 that the stage should show only 'an atmosphere which can be achieved in relation to the living and moving beings on whom' the stage director must concentrate. Tairov neatly sums up the essence of the continuing crisis of representation, itself a result of the transitional period of the crisis in drama:

There are two kinds of truth -- the truth of life and the truth of art. Naturally they co-incide here and there, but for the most part what is true in life is not true in art, and artistic truth rings false in life. The naturalistic theatre either overlooked this simple truth or consciously rejected it.

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31 Tairov 44.
The reality of the wood chair in front of its painted canvas counterpart is the crux of this crisis of the real versus the representational and is constantly undermined by the reminder that they are both in the artificial glare of stage lights for an audience who are all too aware that they are watching theatre. We can enhance this dichotomy of representation when we are to consider a chair in someone's sitting room, as well as a chair on stage and a chair painted on a backdrop; when the chair in someone's sitting room is considered real is there any point making a replica of that chair and putting it on stage, or making a pictorial representation of the real chair? How real the chair is would no longer matter, and how close to real the representation of it is gains an inflated prominence. We are returned here to Hegel and the warnings in the End of Art:

In general, such delight at our skill in mimicking can be but limited, and it becomes man better to take delight in what he produces out of himself. In this sense the invention of any unimportant and technical product has the higher value, and man may be prouder of having invented the hammer, the nail, and so forth, than of achieving feats of mimicry.32

Hegel here neatly touches upon one of the reasons there was and arguably still is a crisis in representation and why the crisis in drama seems to be resolving itself in a rejection of staged drama in favour of staged performance. It is the 'unimportant and technical product' which enables and assists with the production of all art in the theatre with which this study is concerned and though the crisis of representation and the crisis in drama is fully bound up within this study, it is not the object of it. Nor does it intend to answer the questions raised by Szondi to do with drama, nor further the work of Craig, Tairov et al. and provide scope for resolution in representational concerns.

32 Hegel 49.
Szondi ventures that the tentative solutions to this crisis in drama were the various theatrical movements of the twentieth century: the expressionism of Frank Wedekind, Erwin Piscator's political revue, Bertolt Brecht's epic theatre, montage, the enacting impossibility, Eugene O'Neill's monologue interieur, the work of Thornton Wilder and the work of Arthur Miller. Each of these examples mark a further movement away from the old literary dramatic form from the pre-crisis epoch, Szondi offers these not as a final chapter in the crisis but as a place to continue the discussion: 'The history of modern dramaturgy has no final act' he says 'the ideas that bring this discussion to an end are by no means its conclusion.' Indeed, since Szondi's writing, European drama has moved on offering other tentative solutions such as the work of Samuel Beckett, Sarah Kane, Willy Russell and Jim Cartwright. As this section began by acknowledging that Meisel's observations were only useful to the nineteenth century, so too are Szondi's only useful to the early twentieth century drama there is the next act and the curtain has yet to fall. A major proponent of understanding theatre and drama post-Szondi, is Hans Thies Lehmann.

Hans Thies Lehmann, responding to Szondi, asks how have the various forms of drama diverged and combined with new forms. Lehmann believes that 'it is advisable to use the term "postdramatic" in order to relate the newer developments to the past of dramatic theatre, that is, not so much to the changing of theatre texts as to the transformation of theatrical modes of expression'. Lehmann does not intend for the postdramatic to be a replacement of the dramatic, or even to describe what lies beyond the dramatic, but rather that 'it should rather be understood as the unfolding

33 Szondi 96.
34 Szondi 96.
36 Lehmann 46.
blossoming of a potential of disintegration, dismantling and deconstruction within drama itself.\textsuperscript{37} Effect and situation diverged for Meisel creating tensions that shifted the dramatic form towards the well made-play. Hans Thies Lehmann suggests that shifts and divergences between a plethora of forms both dramatic and otherwise create a diverse fabric of the postdramatic. Szondi identified a shift in dramatic form that he considered primarily finished with the epicization of the drama, but the drama did not end nor did it continue intact but instead it diverged and reformed. Lehmann's use of the term postdramatic was to highlight that drama as a concept alone cannot define what is still evolving.

This thesis follows a wish that Lehmann articulates as a desire to evade the 'meaningless exercises of either archiving or categorizing' which leads to a 'historicist contentedness – according to which everything is worth attending to simply because it once existed – to the present.'\textsuperscript{38} To this end, Szondi, Meisel and Lehmann all form a historical convenience for this thesis: they articulate a shift in dramatic and representational forms which seem to begin in the early part of the nineteenth century and do not stop. This gives the thesis a strand of theory which appears historically contained, but is one which actually provides examples of 'divergent theatre forms'\textsuperscript{39} to form a 'concrete problem in theatre aesthetics'.\textsuperscript{40}

**Literature Review**

There are a number of theatre histories connected with or involved with theatre technology: the rare books written by Richard Southern on numerous aspects

\begin{itemize}
\item \textsuperscript{37} Lehmann 44.
\item \textsuperscript{38} Lehmann 20.
\item \textsuperscript{39} Lehmann 20.
\item \textsuperscript{40} Lehmann 21.
\end{itemize}
of technical theatre include a very thorough but self confessedly incomplete survey of stage devices in *Changeable Scenery* (1951);\(^{41}\) Georg Fuchs' *Revolution in the Theatre* (1959) and Tairov's *Notes of a Director* (1921) concentrate upon the inadequacies of the architecture and the shortfalls of the technologies available to them; the many studies written on Craig's and Appia's work and lives frequently quote their work on making theatre and explore the technical in brief through the technical aspects of their design work. All of these works fall shy of studying the technology, they seem much more concerned with the end results: the archaeological discovery, the practice-based theory, the finished and the unrealised design work for productions. The usual fare is made up of production-centric complete conclusions drawing upon productions as a whole without breaking them down into their constituent parts. When productions are broken down in this way, the aesthetic discussion centres on the artistic design and its success or failure to incorporate thematic elements of the text of the production or the literary dramatic text on which the production is based. The works of theatre reformists like Svoboda, Fuchs, Craig, Tairov and Appia are very relevant to this exploration and will be investigated through their theories when they apply to the argument, but their work used technologies to develop the aesthetic language of the stage -- this study may have to use their work to develop the aesthetic language of the stage technologies they used, but this study is not directly about them or their practice.

\(^{41}\) Southern's admission is a brave one and one which highlights the difficulty of such a subject, in his introduction he writes: 'The decision when to call a book of this nature "finished" is a hard one. Strictly it should never be until the writer is sure that all the relevant evidence is collected. Accept such a counsel of perfection, however, and there will be no book. New evidence continues to come to light – often of such a nature as not only to bring new facts but to modify the interpretation of a whole succession of old ones.' Richard Southern, *Changeable Scenery: Its origin and development in the British Theatre*. (London: Faber and Faber 1951) 5.
There are a few works which act as surveys of theatre technology between certain dates: Francis Reid's *ABC of Theatre Technology* (1995) has some merit as a glossary and a summary collection of theatre and technological terms, some of which have passed out of use and serve as an indicator of a different epoch. *British Theatrical Patents 1800-1900* (1996) edited by Terence Rees and David Wilmore is a painstaking work of scholarship, which has collected facsimiles of every British invention patent that has a theatre application to be submitted between the dates of the title. This is an excellent and almost inexhaustible source of officially recognised theatrical invention collected in one book, but it is limited by its major pre-requisite: the patent itself. If a stage designer did not submit a patent, then the invention is not in this book; it is also geographically isolated to Britain alone, leaving a historian unsure where to look for certain information: if the device is not mentioned in this book then it either could be of foreign invention or the patent application was never submitted. Rees and Wilmore have compiled a sequel of sorts in the rather more extensive *British Theatrical Patents 1900-Present* which is so extensive, it exists in database form only on a number of CD-ROM.

The main history of theatre technology to be published in the English language within the last ten years is *Theatre, Performance and Technology; the Development of Scenography in the Twentieth Century* (2005) by Christopher Baugh. Baugh's work is an excellent work of scholarship, he very thoroughly gathers up as much technology as he can fit in the book and uses it very deftly to plot and lay out the life and works of the major practitioners of scenography in the twentieth century: Craig, Appia, Neher and Svoboda. Along the journey he also investigates a number of other theatre design reformers like Fuchs and Gropius to present a comprehensive
scenographic theatre history. As an exploration of scenography and the major scenographers of the twentieth century it is very thorough, but it is his treatment of technology that restricts this book and prevents it from being anything less than reductive about technology within his historical frameworks. Technology for Baugh is a convenient device, something to hang the framework of a history of scenographic theory upon. In the first of his two chapters about light he reveals the tacit distinction that he works with throughout the book: He begins with the fairly well substantiated claim that electricity and the invention of brighter light sources in the late nineteenth century directly led to the fundamental change in the designing of the scene in the early twentieth; he gives a short survey of electrical innovations from the Edison Company and then a brief survey of the transitionary period experienced by some theatres between using gas and using electricity. The use of arc lamps is next described with a brief aside on how different intensities could produce different effects, but they each have to be operated by a separate technician. This whistle stop tour of electrical development in the late nineteenth century ends with Alexander W. Rimmington's Colour Organ, a device which plays different coloured lights on a chromatic scale. After this section, Baugh moves into the theories of Appia and Craig who used these new technologies to develop their own scenographic theories to which he dedicates the remainder of the chapter.

Where his insights to the comparative theories of Craig and Appia are fascinating, he does not return to the technological innovations that he surveyed again; his treatment of technology as a means to an end or as an end in themselves deeply affects the historiography of the entire work. There is an admission implicit in his work that the technology is important to the aesthetic of the theatre but no admission that the technology's aesthetic, its distinct artistic nature, is important in
the theatre. Technology is treated exclusively as a tool to make art but is not allowed to be artistic in itself. Baugh is not alone, this is also a distinction which no other history of theatre technology attempts to make.

In his opening chapter, Baugh attributes his historiographical theories to an essential reading of Derrida's *Archive Fever* in a preface entitled 'On Writing Theatre History and My Mother's Button Box'. His metaphor is that history is like playing with a box of buttons, and arranging them into different piles and shapes, and playing games with them that sort them by different criteria. In referring to the archives of Craig and Appia held at various institutions around the world he says some 'button boxes are so large that, with careful selection, we can make any number of new archives and play any number of "games" to match our own inclinations and patterns.' He suggests that by simple arrangement, a historian can make these archives say anything they wish to support their argument. Baugh is quite astute with this analogy insisting that his history is an arrangement of archive material to tell a history of 'what might have happened'. This insight is critical to any history, but Baugh does not explore a fundamental historiographical idea, he has only historicized his work once and has acknowledged the scope for the mass of material he has to deal with, he has not however acknowledged the inherent causality of his work made evident in his title with one simple word: development.

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42Christopher Baugh, Theatre, Performance and Technology; the Development of Scenography in the Twentieth Century (New York: Palgrave Macmillan 2005) xiii.
43Baugh xv.
44Baugh xvi.
45For Pierre Bourdieu, history is not just a collection of facts laid out in a particular way, or archives put into an order peculiar only to the archivist, but is actually part of the accepted reality of what has happened or gone before. His ideas about double historicization make it vital that the realities 'constructed' by the historian and 'accepted' by the public are analysed appropriately before being absorbed into the standardised tradition of history. Pierre Bourdieu, *The Rules Of Art: Genesis and Structure of the Literary Field*, trans. Susan Emanuel (Cambridge: Polity Press 1996) 309.
Semantically, the word development when used in historiographical writing is problematic. It does not immediately present a problem to someone who is examining a single moment in history nor does it present much of a problem when micro-histories are described, the issue arises when a large period of time is looked at and written about and the larger the period of time the more obvious the problem becomes. Writing about the development of anything relies on two things: the linear passage of time and the moment from which you examine that passage of time. Up until the 1930s in Britain this was not too much of a problem, histories quite logically followed a narrative pattern which began at the beginning of a period of time and ended nearer to the historian than they began. It was when respected academic historians like Herbert Butterfield \(^{46}\) started questioning the legitimacy of history writing that problems began to grow. Butterfield identified the 'whig history', a naturally deterministic trap which all of his peers (including himself) \(^{47}\) often fell into. Determinist in its inescapability and relativistic in its author's bias, the whig historian writes from their own specific point of view as if all time has led to their situation. "To change the course of history" therefore becomes an interesting phrase, demonstrating neatly a determinist and relativistic mind-set: history has a course, a direction from one place in time to another. Altering the course of history implies a

\(^{46}\) The main thrust of Butterfield's observation states that the writers of history are patriarchal relativists and determinists who always tell their history with direct reference to their own time and without considering the context of their period of study in isolation. The whig historian consequently falls into a series of ethical traps: History (with intentional capitalisation) is used to validate the writer's present, by providing proof of the inevitability of the present; History is, for the whig, a series of decisions made by individuals leading to an inescapable and "correct" conclusion, any concept or idea of an alternative, or evidence of a different truth with its own value, is disregarded or trimmed to fit the whig's "History". Herbert Butterfield, *The Whig Interpretation of History* (1931), (London: Bell, 1950) 66.

\(^{47}\) E. H. Carr criticises Butterfield for decontextualising fact because he does not admit an alternate solution to whiggish academia making his argument one solely of opposition and consequently one just as relativistic. The idea that Butterfield's whig historian is exclusively looking for that which leads to his position in time, is as absurd as the historian seeing no tragedy where there clearly was one; stating that 'no sane person ever believed in a kind of progress which advanced in an unbroken straight line without reverses and deviations and breaks in continuity'. E.H. Carr, *What Is History?* (1961), 3rd ed. (New York: Palgrave MacMillan 2001) 110.
decision, a deliberate event with foresight which changed things from what might have been to what is now. This implies an alternative to the present, but it does not explore that alternative, nor entertain it; the idea is used to simply identify the moment that history came to be on the present *course*. The word *development* therefore gains significance as a problem: one develops from something into something else, historically from one point of time to the current moment; it is deterministic and relativistic. How to avoid this trap has been the subject of some controversy ever since (and that is a deliberately deterministic phrase) and has been answered in many different ways by many different scholars. We recall how Richard J. Evans thinks that post-modern history can be written with little controversy, but only if we step lightly on the methodological egg shells: '…it really happened, and we really can. . . find out how it happened and reach some tenable though always less than final conclusions about what it all meant.'

Baugh's history contains deterministic assumptions when it surveys technology. When he examines the work of the practitioners and the scenographers, he does it in a necessarily deterministic way, one that is authorised by his button metaphor: he has gathered the archives together and is carefully trying to form a narrative around them, he is even aware that in doing so he may be being deterministic weaving disclaimers into the critical analysis of the theory. When Baugh talks about technology however, he is often more expedient, wading through the developments in theatre technologies in convenient chronologically linear movements. His introduction to electricity in theatre is joined by a similar one for

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49 Baugh 103.
the developments of sound technology and in his first chapter about the great exhibitions of the nineteenth century.

Writing history in this manner is not wrong, but in a work which involves 'caution, power and responsibility' when dealing with the scenographic elements of theatre history, it is worrying that he is less concerned with the technological history of the work. Baugh is still archiving theatre technology as he states in his introduction, but through his deterministic handling of the material directly pertaining to technology he takes the technologies out of context and orders them in far too convenient a way. This treatment of technology as a separate thing which can expediently place the larger theories into a hitherto ignored context undermines the historicism of the scholarship after an introductory chapter which claims that it is studying 'a vision of the theatre where there is a seamless and creative interface between theatre, performance and technology.'

The flaw does not lie solely with Baugh's historicism but with a fundamental gap in theatrical scholarship. In the sections dealing with the theories and practices of an astounding array of theatre designers, practitioners and artists, Baugh's analyses are exemplary in their holistic aesthetic insight; it is only when dealing with technology that the history becomes the surveying we find in the other technical history texts I mentioned earlier. Maybe this is because there is a good deal of critical and theoretical language that has been in use for a comparatively long time to deal with the theoretical and artistic work of the theatre but none that deals with the technologies. Jacky Bratton attributes this to a certain type of archeo-historical critical analysis stemming from the critical paradigm of theatre theory in the

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50 Baugh 204.
51 Baugh 11.
52 Baugh xvi.
53 Baugh 10.
twentieth century. Bratton says ‘the objective of Theaterwissenshaft, is that its products should be of use to the wider world, providing a secure knowledge on which critical, aesthetic and conceptual responses to literature could be based.’ In dealing with an area that is ostensibly Theaterwissenshaft – the critical archeo-history of scenography forming part of this theoretical foundation – Baugh had to place his historicist narrative into a "neutral" structure. Technology until this time could be considered to be neutral, it having no received critical text to create a problem; but in doing so Baugh opened up issues of determinism and historiography, not because technology has no written history, but because it has no critical aesthetic language. The visions of theatre he explores may practically have no seam, but in aesthetic and critical terms, they do. It is not necessarily a critical language for theatre technology history that Baugh lacks and is needed here and in theatre technology criticism in general, but an aesthetic language for theatre technology itself which is required. A language which is aware of history but does not attempt to write one.

**Deliberate Omissions**

There are a few final strands of the current research available that bear mentioning in this literature review: the aural in theatre and performance, lighting technology and digital technology. A historical work pertaining to new technologies has been written by Steve Dixon: *Digital Performance: A History of New Media in Theatre, Dance, Performance, and Installation* (2007) is a similar work to Baugh's

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Theatre Performance and Technology, treating its historical subject in much the same way. Where Dixon's work differs from Baugh's is in its identification of the aesthetic that digital technologies have lent to contemporary performance making it a means to 'reconfigure fundamentally artistic or social ontologies' and not just a tool for enhancement. In particular for sound, the recent work of Ross Brown, whose *Sound: a Reader in Theatre Practice* (2010) is a thorough piece of work which concentrates on the creative role of sound design and its history. For Stage lighting technology there have been many theory books written, though none step from under the shadow of Stanley McCandless' seminal 1932 work *A Method for Lighting the Stage*, and none of these works really attempt to grasp the poetic need of light in the same way that Adolphe Appia did. In terms of written histories there is the Terrance Rees' *Theatre lighting in the age of Gas* (1978) and R. B. Graves' *Lighting the Shakespearean Stage 1567—1642* (1999). This thesis will not be approaching lighting technology or sound technology as separate production modes for reasons which will hopefully become clear. The history and method of stage lighting and theatre sound are thoroughly documented and although I have a firm grounding and familiarity with this research, I will not be covering theatre devices that relate to sound and sound engineering and stage lighting specifically. My hope is that my work will touch upon issues within those spheres of theatre technology and that the critical language I produce will aid studies there as well as in the sphere of scenography and theatre technology.

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Just as lighting and sound have been deliberately avoided in this thesis in terms of criticism there are two theoretical frameworks which must be mentioned but do not feature overtly in the work: Futurism, Bauhaus and the performative body. The reasons for not including a discussion of the body will eventually become clear as the arguments in this thesis are disseminated, but simply put to begin with: it is an approach which is already adequately privileged in nearly every work that deals with the body in the technological space: Susan Kozel, Peggy Phelan, Susan Broadhurst, Mathew Causey et al and all works in the online journal Body, Space, Technology. The body of course forms part of the discussion of theatre technology, just as the literary text, history and performance theory also contribute. However, if this study was to make a detailed discussion of the body in the technologised space it would not contribute anything new to knowledge. This study is more concerned with how we approach technology to begin with before we examine how it affects the body.

In a similar way, a detailed survey of the work of Bauhaus and the Futurists would also contribute little by their inclusion. The thesis omits them because they are primarily concerned with adopting a technological aesthetic and not with understanding the aesthetics of technology.

Outline of Study

Chapter One investigates the history of two popular nineteenth-century stage devices which were used to represent a ghost on stage: Pepper's ghost and the Corsican trap. In the examination of these two devices within their historical contexts, the study hopes to isolate them as performative objects and as "rivals". To
do this three theoreticians from vastly different disciplines are used: Freud from early and popular psycho-analysis and his sole aesthetic study *The Uncanny*; Robert Weimann, a theatre and performance historian and theoretician with his theories of theatrical space and of the *locus* and *platea*; and Gaston Bachelard the philosopher with his work on *The Poetics of Space*. Using these theoreticians the case study establishes that there is a difference between these two devices that goes beyond a physical constructive difference, and becomes one that is conceptual.

With these two devices potentially in opposition, the case study examines each of them in turn placing them within their contexts investigating what happened. Then, in a movement away from the historical contextualising towards a more technical analysis of the effects, asks how they happened: firstly from an observational viewpoint – actually what was seen – and then in a more theoretical aspect – what was thought to be seen as well. The first part is achieved by breaking down the effect with a simple analysis of the practicalities and functions of the physical object. The second part establishes the role of the effect in the physical architectural space and examines how it affects the representational dramatic space.

The second chapter takes the conceptual differences laid out and examined in the first chapter and the differences between different types of technology pointed out by academic Christopher Baugh and popular critic Lyn Gardner. Namely that there is a very modernist division of theatre technologies: those that are gratuitous and performative and stage technologies which are utilitarian and performative.

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From here the thesis begins to form a model of critical terms for use in formulating the basis of an aesthetic language of theatre technology. This model is similar to Barthesian concept of lexia\textsuperscript{59}, and George Landow's\textsuperscript{60} ideas of hyper-text, both in the way that it functions with other technologies and in the way that a technology can be "read". This model details a psycho-plastic/specific relationship in each technology individually over time; as each technology is at a different stage in its development it touches upon many other technologies. Every technology it touches is pulled into the model and becomes at once part of the model and a separate entity existing within its own cycle with its own interpolations, diversifications and re-invigorations. It is this multiplicity and perpetuality that makes this model of theatre technology fluid and cyclical. Using this model, Pepper's ghost is revisited where it is postulated that its re-emergence and submergence over time is part of a cycle of technology which affects the aesthetic meaning of all theatre technologies not just nineteenth century ones. This process has interesting implications for modern technology.

In \textit{Chapter Three} it is argued that theatre technology cannot be looked at as a medium only as a text. The implications of this mean that technology is only ever seen as being something that is a mode of theatre art, it is seen as \textit{technē}, and asks if it can ever be seen as art in its own right (\textit{alētheuein}). Using the ontological disagreement between Phillip Auslander's \textit{Liveness} and Peggy Phelan's \textit{Unmarked}, against the work of Matthew Causey\textsuperscript{61} and Susan Kozel,\textsuperscript{62} this chapter is primarily

\textsuperscript{61} Matthew Causey, \textit{Theatre and Performance in Digital Culture: from Simulation to Embeddedness}, (London: Routledge, 2006).
interested in examining modern technologies and emerging contemporary theories of intermediality\textsuperscript{63} in relation to established media theories\textsuperscript{64}, and the ones established in the previous chapter.

**Some Definitions**

This thesis talks about the technology associated with drama, theatre and performance and aims to identify a clearer language for application in its creative use within the theatre. We have already briefly discussed the problems associated with writing which deals with elements of history, and we have also heard from Jacky Bratton that 'the objective of Theaterwissenshaft, is that its products should be of use to the wider world, providing a secure knowledge on which critical, aesthetic and conceptual responses to literature could be based.'\textsuperscript{65} To write from a modern position within Theaterwissenshaft, or indeed from within British Drama and Theatre Studies, and to provide the 'secure knowledge' needed we must first identify the terms the work will be using and define them as closely as possible so that the methodology of the early part of this work will be as transparent and holistic as possible.

This theory does not want to be trapped by definitions that differentiate too rigidly the terms performance, and theatre. These terms are often used by the public as synonyms but which have developed very specific and separate meanings within the studies of such things. In the light of Lehmann's postdramatic theories a clear

\textsuperscript{62} Susan Kozel, Closer; Performance, Technologies, Phenomenology, (Cambridge, MA: MIT, 2007)
\textsuperscript{63} Freda Chapple and Chiel Kattenbelt, eds. Intermediality in Theatre and Performance, (IFTR/FIRT Theatre and intermediality Working group – Amsterdam: Rodopi, 2006).
\textsuperscript{65} Bratton 6.
definition becomes even harder when the overlap between becomes them less distinct.

This thesis uses the term *theatre* to refer to several concepts: an architectural construction, or a building to house performances; a culturally "traditional" aesthetic, one that is grounded in a nineteenth century conception of the word -- theatre as an art that is different from painting and literature; and an art form which involves various inextricable performative practices. *Performance*, conversely can exist without theatre within the confines of this thesis. Here it is defined as a practice which an audience is invited, either implicitly or explicitly, to observe as something artistic. This frees the thesis from the definition that Lehmann gives slightly, so that it is not just the purlieu of the performer to explicitly invite: ’performance is that which is announced as such by those who do it.’66 The invitation in this thesis can come from other quarters. Part of this study will aim to demonstrate that performance can be implicitly announced, so freedom to remove this responsibility from the human performer is therefore necessary.

For the majority of this work theatre and performance will be used interchangeably when specifically referring to technology, as in *theatre technology* or *performance technology*. Technology that is *industrial* or *domestic* must be clearly extricated from technology which is used performatively or theatrically for dramatic effect. It may also be referred to as *stage technology*; this is a convenient generic term that is formed from a combination of technologies which are located on or in a physical and purpose built stage or theatre building. If there is any discrepancy it follows that unless otherwise stated, stage technology is being referred to and not technology as a mark of civilised or industrial development.

66 Lehmann 136.
Technology also needs a brief definition beyond that already suggested by examining the purpose of technology through Heidegger. A technology is a tool with more than one distinct and defining characteristic which can be used to reduce an effort through work. At its most basic level, the example given by Heidegger of a knife has the characteristics of being held by hand without cutting the user with its sharp edge. It would be used to cut something such as the meat of an animal which would otherwise take a lot more effort to do successfully. This definition is necessarily fluid to incorporate many things into the definitions of tool, which could be as complex as microchips attached to a motherboard in a computer, or as simple as a hammer. With a fluidic definition of the tool and a clear definition of the characteristics many things can be considered technology. This study will mainly concentrate upon machines and devices used in theatre and performance.

The final definition which needs to be set at this early stage is that of effect and affect. Effect is the noun and affect is predominantly the verb that relates to the noun. The use of these two terms can become obtrusive to a ridiculous degree so when using them so precisely it is important to distinguish: when related or relating to an audience. Affect describes the psychological and emotional state that someone exists in; effect is the action, which can be, in this context, theatrical or performative and which may or may not enable the drama. When used as a noun the effect is the physical device or construct used to produce an affect in someone. So the efficacy of a stage device can be measured by the subjective affect an audience member experiences. This will be examined in greater detail later on and further definition will be added with the introduction of new terminology. For the early part of my study, only the distinction between the stage effect and its affect is required. Other definitions will be explored in their contexts as they come up, and elaborated upon
where necessary. If according to the argument the definitions change, they will also be flagged up and time taken to explain how they alter.

The main aim of this work is to add a new strand to the discussion of the dramatic crisis, explore a new language and attempt to give definition to something which has hitherto been neglected in the critical discussion of drama, performance and theatre. It is the aesthetic issue of technology and how it fits with the creative production of theatrical art that is the issue that is largely unsettled or sequestered by other discussions. This thesis therefore aims to set the ground work for later aesthetic discussions of theatre technology to take place based. This thesis will often approach close to talking explicitly about the aesthetics of theatre technology, but those occasions will be moments where the work could be drawn into further realms of tangential discussion. The thesis therefore only explores the very fringes of an aesthetic study of theatre technology. It has been said above that this work exists between several disciplines as a conversation where technology exists only on the fringes, by the end of this work a study of the aesthetics of theatre technology will be another participant in the conversation, but only at the end.

Dialogues and criticisms, surveys of history, design, staging or scenography tend to obscure and appropriate the technological issues of the stage as foundations for other arguments without developing the dialect of technology itself. The Hegelian pride is not acknowledged by these theories and scholarly works, only the production of the art, and where I disagree with Hegel, that the production of the hammer is higher than the production of art, it is certainly worth examining as a separate entity. Technology seems to form the syntax of so many artistic languages without forming a language of its own.
CHAPTER ONE: Technology Performing a Ghost

I am going to begin the search for an aesthetic language of theatre technology by approaching the period of theatre associated with the crisis of representation: the nineteenth century. I am also going to examine the technologies associated with the artificial representation of something which cannot be easily represented, artificially or otherwise: the ghost. To this end, this case study is primarily concerned with two ghost producing devices of the nineteenth century: The Corsican or Glide trap and Professor Pepper's ghost.

The Corsican Brothers

Les Frères Corses is a fairly straightforward supernatural tale by Alexandre Dumas père which was first turned into a stage drama for the Paris Theatre by E.P Basté and Count X.A. de Mountépin and obtained some small popularity as a straightforward melodrama in 1850. The novel opens in the picturesque wilds of Corsica in the manner of a piece of travel writing, giving advice on horse rental, suitable clothing and the general environs. Unusually for Dumas it is written entirely in the first person, his own persona being the narrative voice of the novel that lends the work an air of authenticity, which becomes vital in the conveyance of the main

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67 This is not however an investigation into the rise of spiritualism in the nineteenth century, nor an investigation into the ways technology were used to prove, disprove and debunk or to support and prove the work of nineteenth century spiritualists and mediums. This is an area where the thesis touches upon the fringes of a very different discussion.


plot points later on in the novel. Dumas finds himself a guest of the dei Franchi household, an old important Corsican family well respected in the region, presided over by Mme Savilia dei Franchi and one of her twin sons Lucien. The other twin, Louis, Dumas is surprised to learn, lives in his native city of Paris. Madame dei Franchi and Lucien, greatly miss Louis who having left for Paris ten months before, has not yet written, and is not expected back for another three or four years. Lucien reveals to Dumas, that he and his brother share a psychic connection, and, having once been Siamese twins but separated at birth, find themselves experiencing the intense emotions of the other; Dumas discovers that Lucien's depressive moods are not just his, but are the result of some kind of psychic link with Louis who is experiencing arduous emotional turmoil at that moment hundreds of miles away in Paris. When asked by Dumas how he knows his brother is not yet dead, Lucien replies 'If he were dead... I would have seen him again.'

Dumas stays a while at the dei Franchi house, and becomes embroiled in the arbitration of a Corsican feud that has been raging for more than a generation. When he departs, he promises Lucien to find and look after Louis when he returns to Paris.

In Paris, Dumas meets up with Louis, who apart from a striking resemblance to his brother is dissimilar in almost every manner and talent. Louis has become infatuated with a young lady and in trying to protect her honour has incurred the wrath of the best duellist in Paris, M. de Château-Renaud, this is the cause of the anguish that the Brother sensed back in Corsica. The contrast of brutish but simple Corsican honour and Parisian decadent manners is decidedly marked in the novel, and highlighted when Louis loses the duel. Dumas writes to tell Lucien of his brother's death, but is surprised when Lucien turns up at his house in Paris far more

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rapidly than the arrival of the letter in Corsica could have possibly allowed. The reason is supernatural in its explanation and relies heavily upon Dumas' authority as a real person to account for the fantastic element of the story to convey it to a sceptical public.

Lucien had been out riding on the day of his brother's duel and fallen from his horse when he had thought he had been shot, he had not it was only a hallucination. Later that night Lucien had seen an apparition his dead brother's body and then had a dream of the events which led to his brother's murder at the hands of M. de Château-Renaud and a premonition of how he would avenge him, precise in every detail: from the patch of ground where the body would lay to the place in M. de Château-Renaud's temple where the bullet would strike. Dumas' novel ends when Lucien avenges his brother's death by killing his competitor in the exact manner which his dream predicted, before shedding the first tears he has ever shed.71

In 1852, Charles Kean commissioned Dion Boucicault to adapt Les Frères Corses for the English stage. Boucicault took the 1850 Parisian version, adapted it into The Corsican Brothers and under the direction of Charles Kean, who also played both leads, the play opened on February 24th at Kean's Princess Theatre.72

Having been twice removed from the original novel, Boucicault's English language adaptation is somewhat different to the novel in a number of respects: Firstly the names were altered, Lucien and Louis being too similar, Boucicault's version has the name of the avenging brother as Fabien, and this is probably the smallest of the changes to the story, the others being far more structural. For

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71 Dumas 126.
72 Era 29 Feb. 1852
example, the novel is not only written in the first person, but is also written as Dumas himself; the stage version, however, does not include him at all. Born in 1802, Dumas was by 1851 a famous figure in European society, penning some two hundred and fifty works in his career before dying of a stroke in 1870.\textsuperscript{73} To have Dumas as a character in the action would change the style of the piece from melodrama to parody and be too problematic for a stage version. Instead, the Frenchman who visits the dei Franchi’s estate is called Alfred Meynard and he arrives bearing a letter from Louis in Paris. The duellist plot in Paris in the play is already underway, in fact as the action happens in Corsica in Act one of the play, the action of Act two supposedly happens simultaneously and because of this, the character of Dumas is removed entirely, his role filled by the Baron de Giordano who also appears in the novel. This alteration in the timing of the action allows for the major melodramatic action to occur: the appearance of the ghost of Louis. Whereas in the novel, the apparition of the ghost had to be recounted to Dumas, after the fact, in the stage version, the effect of introducing a ghost can be allowed to happen on stage, and not recounted as an event that happened off-stage.

The play was split into three Acts, the first two Acts ran concurrently in the story, so that the ghost of Louis appeared to Fabien in Corsica at the end of Act one, and the events leading up to Louis’ death in Paris occupied Act two, implying that the stage action of both Acts had occurred simultaneously. Act three was then set after both acts had taken place in Paris, Louis lies dead and Fabien has arrived to take his revenge. As a melodrama, the time discrepancy in the play is interesting because it is structurally unusual as is the premise of the ghosts and the way the action plays out.

\textsuperscript{73} His most popular stories \textit{Les Trois Mousquettaires} and \textit{Le Comte de Monte-Cristo} being published the same year as \textit{Les Frères Corses}. 
The play should have been only as adequately received as its French counterpart, but due to the staging of Kean’s production, the play was immensely popular, a popularity which only grew.

One month after opening at the Princess, *The Corsican Brothers* was running in five other London Houses, by April it had reached the Adelphi in Edinburgh and the next week it opened in the Queen's Royal Theatre in Dublin. In Kean's eight year tenancy at the Princess, it was produced two hundred and thirty six times. It was also popular with the royal family, Queen Victoria had visited the play several times and Prince Albert commissioned Edward Corbold to paint a scene of *The Corsican Brothers* 'as performed at the Princess Theatre, and embracing portraits of all the principle performers' Newspapers often act as a weather vane for popular or public opinion, an insight to the popularity of the play can be found in the *Era* newspaper, ten years after Kean's first production:

> The supernatural element in a drama, if skilfully employed, is always impressive, as the opportunity then afforded for Stage illusion gives scope for novel effects, and enables the mind of the spectator to be worked upon through the pictorial and the mechanical as well as the histrionic influences of the Theatre. But to accomplish a success in this way demands a rare power from the dramatist. *The Corsican Brothers*, with a freshness of invention, a well-constructed plot, and an admirably contrived ghost movement, at once seized the attention of the audience, and has not palled on the popular taste.

The 'admirably contrived ghost movement' referred to was the result of a device called a glide trap, also known to most undergraduate scenographers as the Corsican

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74 *Era* 21 March 1852.
75 *Era* 4 April 1852.
77 Caledonian Mercury, 12 April 1852.
78 *Era* 23 February, 1862.
Trap. The first review said that the shade was 'astonishingly contrived' in the play: 'First the head was seen, and then, as it slowly ascended higher and higher, the figure advanced, increasing in stature as it neared him, and the profound silence of the audience denoted how wrapt was their attention. Melodramatic effect was never more perfectly produced.' The article remains for the most part, non-committal to the worth of the rest of the play, the dialogue is 'unexceptional'; a rival newspaper review said that it was 'artistically neat in execution - terse, if not brilliant, in dialogue'.

The merit for the play's distinct popularity lay not with the script as it turned out, but with the trap: as the play opened about London and the rest of the country, the trap went with it, provincial theatres installing it as part of their wood stage systems. When the play was revived in the years following its initial success, such as at the New Theatre in Nottingham, the draw for audience was the 'Corsican trap and other machinery' and not the play itself. What is interesting about this is not the mere contrivance of a ghost upon the stage in a melodrama, but that device itself was seen as essential to the production, as if the play was incomplete without the machinery.

The glide trap is as much a part of part of The Corsican Brothers as the main characters Fabien and Louis dei Franchi are; the trap from the first night it was staged has become part of the text of this play. The differences between published versions seem to corroborate this in the two earliest collected versions of the Boucicault play. Firstly, Booth claims that his edition is based on Charles Kean's prompt copy from the Harvard Theatre collection and collated with the Lord

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79 Era 29 February 1852.
80 Era 29 February 1852.
81 Lloyd's Weekly Newspaper 29 February 1852.
82 Era 3 December 1854.
Chamberlain's copy', a later edition claims a similar pedigree but is markedly different as many edition discrepancies often are, due in this case to the errors being 'silently amended, and the meagre stage directions amplified'. The greatest difference comes at the end of Act one with the first use of the glide trap. The earlier edition presents the moment simply: 'LOUIS DEI FRANCHI [sic] has gradually appeared rising through the floor, in his shirt sleeves, with blood upon his breast.' The later edition is rather more embellished: 'Louis dei Franchi appears, without his coat or waistcoat, as his brother is, but with a blood stain upon his breast; he glides across the stage, ascending gradually, through the floor at the same time.' The philological gap of less than ten years is sufficient to reinstate the glide trap as part of the text of the play itself "amplified" as part of the stage directions. So in just the same way that the base text of a play shifts in accordance with popular grammatology, semantics and spelling fashions, so too do the stage directions; a fact not unfamiliar to content analysts but critical with regard to the importance of the Corsican trap as a piece of theatre technology. The importance of the device has been elevated to that of written text through the revisions of the stage directions. These revisions suggest that the device is important enough to require textual clarification, but are not strictly part of Boucicault's text. The consequences of editing them with abandon seem to be less severe than if one were to edit the dialogue, but they still hold much more importance than the average device. The evidence for this can be found in the remnants of such devices installed in theatres.

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85 Booth 30.
86 Smith 157.
for productions running until as late as 1863\textsuperscript{87}, accounts from the sumptuous\textsuperscript{88} 1880 revival production by Henry Irving, and the installation of the Corsican trap into the refurbished Gaiety Theatre on the Isle of Mann. The success of the play was due to the affect that the glide trap had on the audience. A production of *The Corsican Brothers* without the trap meant running the risk of losing money.

**The Glide Trap**

The popularity of the play and of the contrivance of the trap is in little doubt, what is less definite is how that contrivance functioned as a piece of stage machinery and what it was about the device that made it so very spectacular to the nineteenth century audience. The answer lies, not just in how it works, which was at the time supposedly a closely guarded secret,\textsuperscript{89} but in what it means to an audience witnessing the effect for the first time. It is important to examine a number of variables in the operation of such a device: how mechanically the effect is achieved,\textsuperscript{90} what the visual effect is on stage from the point of view of the audience, and perhaps what it means semiotically. Most people with an interest in nineteenth-century theatre will have heard of the Corsican Trap and some few may even know what it looks like. When first told of the device the idea is fascinating: an actor playing a ghost could enter the stage by floating up through a gap in the floor.

\textsuperscript{87} Wilmore 114.


\textsuperscript{89} It can not have been that closely guarded, as Wilmore points out, with worldwide popularity, thousands of people must have seen it and operated it. Wilmore 115.

\textsuperscript{90} See figures 1 & 2, 40, 41.
Figure 1: The Corsican Trap (after Stokes and Wilson)
Figure 2: The Alternative Corsican Trap (derived from Anderson's Model)
It is easy to imagine an oblong hole running from the back of the stage to the front which would be masked by sufficient miasma and fog to allow the effect to work. Then out of the mist the ghost would glide towards the audience, it would look a little "stagey" but it would be effective. From a passing description of the trap's effect or from reading the embellished stage directions in Smith's edition it would satisfy an imagination to simply think of it as such. The reality is quite different, however, when the mechanics of the situation are taken into consideration, the sightline issues, the power and the meaning of such an effect, the power and meaning of such a device. How could such a thing be constructed and not become incredibly obstructive to the production? How would the hole it would leave be covered safely, and would they have had smoke machines in the nineteenth century? How does the audience not see straight into the conceit of a conspicuous piece of stage machinery and think: "what's about to happen here then?" The reality swims swiftly into focus and the realisation dawns that this device is not as simple as all that was imagined, there are too many technical issues to make this an easy option for making a ghost appear on stage, there is too much imagery concerned that makes this effect highly conspicuous in artistic terms.

The glide trap is located running across the full width of the stage, visible from above as a strip of closely set wooden laths perpendicular to the stage front. This roughly half metre wide section is the scruto and it is an articulated section of sliding stage much like the wood in an old roll-top writing desk or security shutters of a modern shop front. It is stained to match the surrounding wood stage and an oval opening, large enough for a person to pass through, is cut into a section of it. When in operation, the whole scruto slides across the stage and through the oval opening an actor appears ascending as the scruto travels.
Figure 3: The Corsican Trap in Action.
To an audience member, sat in the stalls of the auditorium, the actor's head would appear at the extremity of view stage right and travel across the stage until the actor was fully revealed stage left; the actor remaining physically still, would have produced a gliding, traversing and ascending effect.\(^91\)

Other traps, older, and contemporary to the Corsican trap have their own versatile histories but are very often associated with a different type of theatre than that for which the Corsican trap was designed: to use a daemon trap\(^92\) to produce the same effect the glide trap performs in *The Corsican Brothers* would be problematic. A daemon trap is too swift and, when used slowly loses its impact as a theatrical device: the trap provides rapid vertical access to the stage area from the sub-stage machine room by means of a counterweight system. The effect is rapid and dramatic, it was used in pantomime\(^93\) to facilitate the entrance of daemons onto stage; also, depending on how heavily over-weighted the counterweight was, the speed at which the actor entered could be adjusted for different purposes. If the counterweight was heavily overloaded, the performer could spring from out of the trap in an acrobatic manner\(^94\), performing spectacular stunts and tumbles. Two such performers contemporary to Percy Fitzgerald were the Conquests, a father and son team who would spring from one trap and disappear into another, before springing out again. Miscalculations often proved injurious, Conquest Senior claimed to have broken most of the bones in his body but also to have 'made a fortune out of . . . [his] . . . jumping'\(^95\). Here we have two regular uses for the daemon trap, the rapid

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\(^91\) See Figure 3, 43.  
\(^92\) A trap allowing rapid vertical access to the stage floor. See Figure 4, 46.  
\(^94\) Fitzgerald 57.  
\(^95\) Fitzgerald 58.
appearance onto stage of a daemon in a surprising manner and the acrobatic spectacle of performers leaping to great heights through the use of the same apparatus. Both methods of using that device were old enough for an audience of the Princess to be familiar with, so to use it in a different way may cause different results: the effect could become comic, for example. Defining what is funny is almost impossible; humour is such a subjective phenomenon, that one can never accurately predict what will make an audience laugh or cause mirth in an individual, and all of it is beyond the scope of this study. I would subjectively suggest, however, that the use of the daemon trap in a never seen before way, which plays upon the normal method of operating the trap has the potential to be amusing. The presentation, using a daemon trap renowned for spectacle and surprise, of a ghostly figure rising slowly straight upwards from beneath the stage would be comical. If the lighting dimmed and the orchestra struck up music like that of a melodrama, the comic effect might be heightened; the association of the daemon trap with pantomime is too inescapable, the ghost can be delivered but the denotation of the device does not quite fit, it would be a recycling of an effect to suit something which in terms of image, is not as effective. The glide trap allows the figure to traverse the stage as well as rise, something that the daemon trap does not; the same problem exists with bridge traps and grave traps which all work on an ascension principal, but where the daemon trap has a relatively small cross section fitting to the body, a bridge trap runs the width of the stage and is counterweighted to raise the chorus to stage level in faerie presentations.

96 Mr. Conquest alone worked for more than twenty-four years, and Pantomime has its roots in dell'arte dating to the mid-sixteenth century.
97 Fitzgerald 89.
Figure 4: A Daemon Trap (after Moynet)
The Corsican trap allows the actor to traverse and rise at the same time: the ghost of Louis 'glides across the stage rising at the same time.' Crossing the stage denotes travelling or gliding, a progression of movement from one thing towards something else: from death, from another place, from Paris, to the stage, to the drawing room, to the brother. It is this travelling that makes it so distinguishable from the standard trap devices. The bridge trap could allow travel, but not without walking towards the brother. To add to this increasingly absurd suggestion to have the stage obviously opening up to allow a bridge to rise would also distract: the bridge trap runs the width of the stage. In faerie presentations the opening is normally masked by low level painted scenery pushed up through slots or sloats in the stage.

The direction and manner of travel notwithstanding, there is another device which could be used to make an actor travel onto stage: flying them in. The entrance from the fly-tower or above stage and from the wings moving across stage on ropes and steel wires, is a achieved by a very old stage effect and often presumed to be Greek in origin. There is extant evidence in the works of Vitruvius and Pollux referring to aeorema (cranes) periactoi (triangular rotating scenery) and ekeclema (trucks), the three well known Greek devices. Theatre historian J. Michael Walton, however, postulates that these references are so vague as to suggest 'neither is concerned about the stage conditions of the first performances of the classical tragedies' their information instead referring to later revivals. Nevertheless, the aeorema described in Pollux's Onomasticon, despite being the 'hardest for the

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98 Smith 157.
100 The only extant English translation of Pollux's Onomasticon (simply a dictionary of Attic terms) appears in the appendix of: Aristotle, Poetics, trans. unknown, (London: J. Dodsley and Messrs, Ricardson and Uruhart, 1775).
modern mind to accept101 would have been familiar to the audience that attended the British theatre in the mid-nineteenth-century, it having been used extensively in European and British theatres throughout at least the previous four hundred years102.

The principle described by Pollux is as Walton says, vague:

The crane is a Kind of Machine let down from above [sic], for taking up a Body, the same which Aurora made use of in seizing the body of Memnon. The Ropes which were let down from the upper parts for lifting up Heroes or Gods, who seemed to be carried in the Air, you might call them Pendant-cables.103

In Pollux’s account, Aurora must descend from over the stage, pick up Memnon and ascend again using the 'Pendant-cables'. Vagaries104 aside, the device was used extensively throughout the sixteenth and seventeenth centuries to represent the entrance of a god into the mortal realm of humans, but this device in its familiarity would have a similar effect to the daemon trap. The crane facilitating the descent of a god onto stage may be able to affect a traverse of the stage,105 but it would also descend from the heavens as more of a deus ex machina than as a ghost, a theatre patron's mind has already seen this: Gods descend from the heavens. The character may fulfil a role similar to a deus ex machina in the play, but the distinction between descending and ascending is very important to an patron of English drama as familiar with the modern melodramas as with the classics of Shakespeare and Sophocles.

101 Walton 97.
103 Jullius Pollux, Extracts concerning the Greek theatre and Masks, translated from the Greek of Jullius Pollux, Poetics in Aristotle, trans. Unknown, (London: J. Dodsley and Messrs, Richardson and Uruhart, 1775) 11.
104 It is probable that Pollux is referring to a performance when he talks about the crane, because in the myth, Memnon, the son of Aurora, is struck down during the Trojan War by Achilles and dies on the banks of a river. Aurora descends from the sky in her chariot to watch over him and sing to the dawn.
105 Like the flying machines described in the Palantina Biblioteca manuscripts and recreated in: Mohler 20 July 2010.
Classical depictions of heaven and hell reinforce this, as David Wiles in his *Short History of Western Performance Space* confirms:

Greek theatre used the vertical axis to articulate relations of human and divine, and for this reason flew gods in on a crane, but its major concern was conflict on the horizontal plane. . . The Roman theatre of the imperial age placed more emphasis on verticality. . . Christianity was even less interested in representing conflict on the horizontal plane of human society, and focused its attention on Christ's movement down to Hell, back up to earth and finally to heaven.  

Pamela Howard, a modern British scenographer, also emphasises the importance that the 'vertical height from above' the stage was used 'to indicate divine space, and the depth below the stage floor a demonic space'. The recently deceased would not descend from the heavens, they would rise from the grave.  

The Corsican premise is therefore necessarily different from the previous stage devices, it must traverse, it must rise, and the ghost must enter and ascend at the same time, something new to an audience of 1852. The Corsican trap in its singularity becomes a text in itself and not just part of the play; it is read by an audience as something *nouvelle*, new to them, and it becomes familiar as an image of a ghost, just as the *deus ex machina* descends and the daemon rises, the ghost glides.

**The Wood Stage and the Mechanism**

The English Wood Stage was, in many ways the crowning theatrical achievement of the nineteenth-century theatre. It was manufactured in most of the

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106 This can also seen in some non-western depictions of supernatural realms: In Japanese Kabuki theatre for example, the *seri* and *suppon* are trap doors used to for the entrances of spirits, ghosts and daemons onto the stage from the dessous-like area under the stage known as the *Naraku* – literally translated as "Hell". *Invitation to Kabuki: Guidance for Kabuki Appreciation*, Japan Arts Council, 2007, 29 Dec. 2010, <http://www2.ntj.jac.go.jp/unesco/kabuki/en/index.html>.


modern Victorian theatres and used to support the drama that took place on the stage in the most efficient way it could. Its main aim was to support the fashionable drama by presenting a stage picture to an audience, who according to Fitzgerald are and possibly should be ignorant to what is happening backstage: 'For the audience there is but the great arch, the curtain, the drop-scene that shuts off the mystic world from vulgar eyes. But we could not imagine the extraordinary complex elements, the vast expanses, the machinery, the "hands" that are at work to produce what seem simple results.'

Fitzgerald describes what to theatre audiences of the twentieth century seems alien and yet still quite familiar: the proscenium arch hiding what happens backstage and promising that which lies under and over the stage floor. With theatres still in the possession of a proscenium arch this is still very much the case, but Fitzgerald also allows us a glimpse of something else:

But a great modern theatre is a very different thing from this idea. Properly speaking there is neither floor nor sides nor ceiling to what appears the enclosed "stage." Behind the great arch there is a huge void stretching upwards towards the roof, and below as into a mine, where the floor seems to be, and is, really a series of gratings or grid-irons supported on pillars, while all above it are open, save for tiers of galleries, which run above another.

Where modern theatres have often abandoned the tower and especially the under-stage machinery, what it has not abandoned is the versatility of the wood stage. The ability to do anything on any part of the stage is still a driving force behind the design of most theatres today, and in terms of presenting the nineteenth-century stage picture, Fitzgerald's description seems no exception. It is into this structure that the traps, bridges, sloats and the Corsican trap would have been built.
In a melodrama such as *The Corsican Brothers*, the early explorations into naturalism and realism were of paramount concern, the stage sets were becoming more and more "real" and believable and the effective masking of a stage device was becoming increasingly important; the English wood stage was often designed with a slight rake in order to improve the sightlines to the stalls and to foreshorten the perspective of the scenery so that the back-drops and cut cloths became more convincing. The hole through which the actor rises cannot be a large gap which opens in the stage as is used for daemon, bridge and grave traps. The hatch which covers the daemon trap is in place until the very last moment when it is pulled aside from under stage and the platform carrying the actor fills the gap almost immediately. As mentioned earlier, larger traps such as the bridge trap, used to carry choirs or chorus members directly onto stage in formation are usually hidden by a sloat, a section of 'two dimensional scenery to be raised and lowered between the substage and stage'111. Sloats running the width of the stage are used to hide the opening of the bridge trap covers, which were two long strips of staging pulled aside from under the stage, to be replaced by the travelling platform the choir is stood upon. As this transition is much larger than the daemon trap, it takes considerably longer and more effort to move, it cannot be easily disguised by swiftness. The glide trap has to run the length of the stage, like the bridge trap, but the opening left by a trap the width of the stage is not ultimately going to be filled by the platform the actor is going to stand upon so there are two options: leave the trap open along its entirety and mask it with downstage sloats, or keep the trap covered entirely with the scruto -- a solution fraught with difficulty. Perhaps the greatest problem presented by the evidence extant at Bath was the operation of the sliding scruto. Although the

proscenium hid a space seven-eighths the size of the stage picture, it was almost exclusively on a vertical access, the wing space in a proscenium theatre was hardly ever wide enough to accommodate an adequate length of scruto. It would therefore seem reasonable to suppose that the scruto was wound onto a windlass, a large levered drum moved by hand.\textsuperscript{112}

The methods used to produce such a device as the glide trap could not be revealed to the audience lest the entire effect be spoiled in an instant. Therefore the trap opening must traverse the stage at the same time as the platform carrying the actor rises, and not only at the same time but in perfect synchronicity or the hapless actor would be decapitated.

If what is seen by the audience as a ghost rising through the floor and gliding across the stage is the text, then the machinery is the language. Just as the rhythms in a piece of poetry must be precisely in order for the poem to "work" so must the windlasses, ropes and pulleys. Fitzgerald describes the glide trap and its workings in detail in \textit{The World Behind the Scenes}:

\begin{quote}
Below the stage on the mezzanine floor -- the dessous, as the French call it -- we see around us a bewildering miscellany of ropes and wheels; it is like the 'tween decks of a vessel. At the extreme end on the left side begins an inclined plane of two ledges or rails, starting from the ground and stretching at a gentle slope to the opposite side. A level circular stand is inserted at the bottom between the ledges, and on this the Corsican brother, or his double. . . take their stand. Overhead there is an oval opening sufficient to let a figure pass through, the edges of which are lined with black bristles or brushes, which make the opening, as it were, fit close to the figure.\textsuperscript{113}
\end{quote}

\textsuperscript{112} Wilmore (1989) 115.
\textsuperscript{113} Fitzgerald 47.
Attached to that opening, as mentioned above, there is a strip of articulated wood stage, similar in composition to the wood of a roll top desk or the security shutters of a modern shop front, called a scruto. The strip of scruto is wound around a large drum in the machine room stage right, it passes along a groove cut into the width of the stage and is wound onto another drum stage left like the magnetic tape in a cassette. The stage left drum is turned by a rope which unwinds from the drum onto a windlass under the centre of the stage; it is this same windlass that also drags the actor's platform up the rails from under stage right to stage left, stage level. The main problem is the synchronising of the scruto with the travelling platform, Wilmore\textsuperscript{114} points out that the distance travelled by the actor's platform and the distanced travelled by the scruto are not the same and to overcome this challenge is problematic. In Wilmore's glide trap, the scruto would have to be re-set periodically in order to avoid the loss of synchronicity caused by the discrepancy between the increasing circumference of the stage left drum and the fixed distance of travel that the trap makes. David Anderson in a 1984\textsuperscript{115} article suggests a different method: the scruto and the platform the actor stands upon are not separate but linked. The opening in the scruto is attached to a frame which surrounds the actor's platform and stops it running up and down the sloped rails without the scruto moving with it. This 'framed' approach would rely upon little counter-weighting, the movement of the scruto, which powers the mechanism in this version, dictating the speed of travel of the actor's platform. So the sliding portion of the stage would control the platform directly beneath the scruto opening. As the scruto moved, so too would the platform, it being trapped within the frame. Anderson's principle is sound enough, the platform

\textsuperscript{114} Wilmore (1989) 115.
\textsuperscript{115} David Anderson  ‘Forgotten Machinery: The Corsican effect or ghost glide’ Theatrephile 1.4 (1984): 76-77
would be free to move up and down within that frame; the frame attached to the scruto can only move with the scruto, when the platform is run against the ramp, it will rise as the scruto moves.

Anderson bases his theories upon a 1:24 scale model of a working Corsican Trap of his own design; however, as Wilmore points out in his unpublished PhD thesis, Anderson's 'construction is not apparently based upon any definite historical evidence.' Anderson uses the same extant manuscript that Wilmore uses, known as the Eyre manuscript, to glean information of the size and operation of the original trap workings only to deliberately 'ignore some of the information' and formulate an entirely speculative solution for the problem of the scruto over-running the platform in the daily operation of the device. It is however a very clever modern method of reproducing the effect and one which if scaled-up from Anderson's 1:24 model could solve the synchronicity problem in theory, though I doubt his scientific method somewhat. Anderson claims that the addition of a six pound weight to the model's platform produced 'no appreciable difference' to the working of the model. Six pounds at that scale would equal the weight of a person weighing only ten stones in a working construction, inadequate for a conclusive test. Also, the materials Anderson would have used are not scaled down in strength to be one twenty-fourth the strength of materials needed for real life. In a life-size model the material keeping the scruto lathes together would need to be at least as strong as 8mm rope in order to safely overcome friction, move the scruto and lift the ten stone actor and the platform they were stood upon. That material must then suffer no ill consequences

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117 'H.R. Eyre was manager of the Theatre Royal, Ipswich, from 1887 until it closed in 1890', Anderson 76.
118 Anderson 76.
119 Anderson 76.
120 Wire Ropes for Theatre and Stage, Rope Assemblies ltd. (n.d)
of being riveted, or attached in some other manner, to pieces of wood every ten centimetres. A rope's strength lies in the integrity of its structure, any compromise in that integrity can catastrophically reduce its strength. It is omissions like these, which, though solvable in practical terms, are ignored by Anderson in his account of his experiments and although this should pose little problem in the real world, Anderson's expediency and speculative account of his theories cast doubt upon the whole endeavour.

It is more likely that the problem was merely averted by constant vigilance and the re-setting of the device, as it seems that throughout the life of the trap, the problem was never overcome fully and the synchronised running of scruto and platform were always problematic. Sir John Martin Harvey recounted in his autobiography his between war revival of The Corsican Brothers: 'On one occasion the sliding platform through which my body -- Louis' body -- was rising, out ran the ascending platform upon which I stood, and I was in danger of being slowly decapitated.'

Evidently, Anderson's method was suppositional and never practiced and Wilmore's supposition of a compensating mechanism was not always sufficient to prevent the scruto overrunning the platform and almost cutting short the acting career of the man playing Louis.

Why is it Ghostly?

The Corsican trap allows an actor playing a ghost to enter the stage space by traversing and ascending through the stage floor. So far a general context of the

Corsican trap has been investigated with some illumination of the trap's meaning and its differences from other stage devices. We have not yet examined what it is that makes it a ghost glide we have only explored its mechanism and said that it is different to the others. We have said that the result is readable as something different to the norm: gods descend, daemons rise and ghosts glide; but why is it a ghost which glides? We need to now examine why it is ghostly or whether it is an effective theatrical representation of an audience's ghostly expectations.

The problem of representing a ghost on stage in a realistic way is one which at its core is an issue of realism, in particular an issue of the illusion of realism. One can say the actor on stage is a ghost, but what makes it a believable ghost is its verisimilitude. Tzvetan Todorov in his *Introduction to Poetics* argues that in order for something to have verisimilitude it must relate to two kinds of norms: the rules of the genre and public opinion. These two norms govern the verisimilitude of illusionistic realism in literary fictions, they are culturally relativist and change rapidly over time: literature considered realistic to an audience of 1850 may not be considered realistic to an audience of 1880. The popularity of the Corsican trap has already been surveyed, and even though it is not strictly literature, Todorov's rules of verisimilitude will hold out for the forth coming argument: What are the rules of the gothic and ghostly genre?

H. P. Lovecraft once wrote, 'The oldest and strongest emotion of mankind is fear, and the oldest and strongest kind of fear is fear of the unknown.' In his essay 'Supernatural Horror in Literature', Lovecraft endeavours through a survey of what

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123 If we can suspend the definition of literature we may also suspend the classical definition of genre and allow a more modern reading of the term than just drama, poetry and the novel.

he considers to be the best of macabre literature to outline what exactly the fear of
the unknown is. His exploration attempts to tie together the emergence of the horror
genre with its differing types and sub-genres to his own interest in writing horror,
exploring examples of the early and late gothic novels\textsuperscript{125}, the works of Edgar Allen Poe\textsuperscript{126}, and a brief survey of his contemporaries. One of the observations he makes
is that in a horror story a 'certain atmosphere of breathless and unexplainable dread
of outer, unknown forces must be present; and . . . a malign and particular suspension
or defeat of those fixed laws of Nature which are our only safeguard'.\textsuperscript{127}

By 1850, Lovecraft considers the gothic novel to be on the decline having
altered its form and become a 'romantic, semi-gothic, quasi-moral tradition'\textsuperscript{128}, but
decaying or not, the gothic and all of its tropes and signifiers were part of the general
popular consciousness. A literary criticism from 1821 likened Gothic fiction to the
features of its architectural counterpart: 'massive, solemn, and shadowy, like objects
viewed through the "dim religious light" of painted windows'.\textsuperscript{129} The gothic is our
world made strange and 'shadowy' where the light of reason and science is dimmed
by religious doctrine and superstition\textsuperscript{130} to allow features of the spiritual and ghostly
kind to dwell easily in the public's imagination.

Although this study is concentrating upon the artistic representations of ghosts,
it is important to remember the social reinforcement of the artistic conception. In the
nineteenth century there was a rise in spiritualism. The spiritual world was, for the

\textsuperscript{125} Lovecraft roughly puts these dates as ranging from Horace Walpole's \textit{The Castle of Ontranto} (in
1764 as an example of the early period), Gregory Lewis' \textit{The Monk} (1796) as the height of the period
and ending shortly afterward with Mary Shelley's \textit{Frankenstein; or, the modern Prometheus} (1817).
\textsuperscript{126} Whom he sees as the great unsung hero of the nineteenth-century American Horror fiction genre:
'Whatever his limitations, Poe did that which no one else ever did or could have done; and to him we
owe the modern horror-story in its final and perfected state.' Lovecraft 461.
\textsuperscript{127} Lovecraft 426.
\textsuperscript{128} Lovecraft 451.
\textsuperscript{129} Edinburgh magazine and Literary Miscellany. vol 88, November 1821,(Edinburgh, Archibald
Constable and Company, 1830) 464.
\textsuperscript{130} Lovecraft 428-430.
Victorians, a very real one which was as important as going to church. In fact, the corollary was that if you believed in God, you must believe in ghosts, for to doubt either one was to be marked an atheist, a corollary that was ingrained by the mid nineteenth-century it having been present in the mid eighteenth as well as the nineteenth. The following passage is from a 1749 article entitled 'On Ghosts and Apparitions':

If you tell him that a spirit carried away a side of a house, or played Foot Ball with half a Dozen Chairs, and as many pewter Dishes, you win his heart and his Assent; but if you go about to persuade him, that a bodily Communication between the spirits of the other World, and the mortal inhabitants of this, is not very likely, at least not very common; he holds up both his Hands, and wonders how you can be so great an atheist. [sic]

This was not to diminish fully in the hundred years between this article being written and the performance runs of The Corsican Brothers, even when famous and respected people set out to prove otherwise. When Mr. Charles Dickens and some acquaintances set out on December 17th 1859 to search for a house in Cheshunt that was reputedly haunted, and found neither house nor ghost, the newspapers were admonished soundly for not letting the matter drop and 'propagating the grossest untruths' for weeks on end, by a Mr W. M. Howitt. Howitt had been approached by Dickens in a letter asking for advice on where to find haunted houses; when Dickens had failed to find the house and the ghosts the popular newspapers repeatedly printed the story Howitt wrote to the Critic with a defence on the existence of spirits, ghosts and apparitions saying: The theory of apparitions maintained in all ages, and by greater minds than any we can boast among us at

131 Whitehall Evening Post or London Intelligencer, 26 October 1749.
132 Manchester Times 7 January 1860.
present, is but the lowest fringe in the sublime mantle of mystery which wraps the
universe; but it is still a real fringe  

Whether the 'fringe' belief in the existence of ghosts is real or not to us in our
modern position is irrelevant when you consider that the belief in ghosts was strong
enough that elements of gothic literature and the "classic" idea of a ghost was a
familiar thing to the audience of the Princess when The Corsican Brothers was first
performed. So the literary idea of a ghost is an important one in defining what was
ghostly to a Victorian audience, but literary ghosts are a very different thing to
teatrical ghosts.

On the stage the apparition of a ghost is often a dramatic device to move the
action in a direction it may not have otherwise taken, similar to the Greek's deus ex
machina. There are roughly eighteen ghosts that fulfil this function in Shakespeare's
plays alone  

but as with the descending god, it is meant to be understood as mere
representation, it is a dramatic visitation of the un-dead specifically to direct the hero
or heroine towards their grisly vengeance or towards safety. Freud in his essay on
the uncanny, deftly points out that theatrical ghosts like the ones found in
Shakespearean plays 'are dark and terrifying but at the bottom they are no more
uncanny than, say, the serene world of Homer's gods.'  

Freud insists that in the
world of the theatre, on stage before us is an actor being ghost-like and not an actual
ghost, the stage is already of another world, one we are consciously aware of, for
ghosts to be uncanny they have to be out of place in our world. In the same way that
Fitzgerald, in The World behind the Scenes, laments that the stage boards are too
apparent when the setting is to some degree naturalistic, because one is reminded on

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133 Manchester Times 7 January 1860.
134 Cymbeline contains four, Richard III has ten, Macbeth, Hamlet and Julius Caesar all have one
each.
sight of the ground that it is a stage; \(^{136}\) Freud implies that the audience never lets go of the fact that the ghost we see on stage can never be unheimlich because of our knowledge of the stage: we have seen ghosts before on stage, we have seen daemons rise and gods descend, '[W]e adapt our judgement to the conditions of the writer's fictional reality and treat souls, spirits and ghosts as if they were fully entitled to exist, just as we are in our material reality. Here there is no place for the uncanny.'\(^ {137}\)

The setting and plot for The Corsican Brothers, although as a literary drama it is restricted from being in the strictest sense uncanny when performed, is unheimlich: one twin is visited by his dead brother, a double, 'a creation that belongs to a primitive phase in our mental development, a phase we have surmounted',\(^ {138}\) one which represents shadow, death and the preservation of the soul.\(^ {139}\) One double should be sufficiently uncanny to be represented on stage, but then at the rear of the action a third, painted depiction of the death of the brother dissolves from the darkness, and we are left with three images of the same person which was certainly the case in the Irving production of 1880 as recounted by Bram Stoker:

Another feature was the "double". In a play where one actor plays two parts there is usually at least one time when the two have to be seen together. For this a double has to be provided. In The Corsican Brothers, where one of the two SEES THE OTHER SEEING HIS BROTHER, more than one double was required \([sic]\).\(^ {140}\)

The entitlement of ghosts to exist on stage is the crux of the issue: even with the rise of realism and naturalism on the stage and with acting methods and styles being honed and tuned all throughout the nineteenth century, by the end of the nineteenth century and the beginning of the twentieth when it is arguable that

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\(^{136}\) Fitzgerald 39.
\(^{137}\) Freud 156.
\(^{138}\) Freud 143.
\(^{139}\) Freud 142.
\(^{140}\) Bram Stoker 170.
realistic and naturalistic theatre is reaching its height, Freud's contemporary audience still expect ghosts to appear on stage, confident in the knowledge that they are "just" on stage in this space that is mimetically real and not in our material world of the actual real.

This idea of being "just" on stage or in the audience's reality is quite clear cut by Boucicault's time and evidently well established by Freud's but it was not always the case as Robert Weimann points out: 'On the Elizabethan stage the difference between the imaginary landscape inscribed in the story and the physical, tangible site of its production was of particular, perhaps unique, consequence.' Weimann explores the space of the Shakespearean stage, where there is a:

distinction between the locus as a fairly specific imaginary locale or self-contained space in the world of the play and the platea as an opening in the mise-en-scène through which the place and time of the stage-as-stage and the cultural occasion itself are made either to assist or resist the . . . remote representation.

The locus was the playing space where heightened dramatic action took place, away from the audience; it was an area of domination over the rest of the space. Here the audience was meant to watch the action unfold. The platea was accessible to an audience it being, as it were, at "ground level"; it was the transitionary space between audience and the locus of heightened action. The Shakespearean stage operated with tacit unmarked boundaries of locus and platea. The platea was accessible to the audience and represented a space which was 'non-representational and unlocalised' in its setting. Here action would take place that was orientated towards a festival or carnivalesque role, it would only take on a dramatic role if the actor assumed one, leading the action out of the place or figurative platform of the platea to the

142 Weimann 180.
143 Weimann 79.
heightened, symbolic, dominating area of the *locus*. Where the *locus* and *platea* actually were in the Shakespearean performance was dependent on the action and the space suggested by the text\(^{144}\) and so the stage was scenographically heterogeneous, in contrast the 'Italian Renaissance stage... [was]... more nearly unified, representational and localized\(^{145}\) situated as it was in perspectively-based scenographic practices.

By the time of *The Corsican Brothers* the English stage had altered considerably in line with Italianate influences, theatres had moved in-doors, they had auditoria arranged so that the acoustic of the stage was better, the architecture of the stage and the theatre itself had radically altered and following the Italian style most theatres had adopted the proscenium arch to better show off the new stage picture the drama required. The distance between the audience and the stage had increased greatly, and because of the architecture, the *platea* had been reduced to at most a slight apron in front of the house tabs. The nineteenth-century melodramatic theatre was all about *locus*, "the world of the play". Freud had never witnessed Shakespearean ghosts with the bleeding of stage reality and world reality afforded by the *platea* and *locus* relationship of the earlier theatre. In his contemporary Italianate, *platea*-less theatre, ghosts on this stage are permanently elevated dramatic representations of fantasy and can never make the familiar strange, can never be uncanny, as they are bound up within their own world their own *locus*. They could not be terrifying in that *locus*, or defeat 'those fixed laws of Nature\(^{146}\) which govern our world, because they are not of our world they are of the *locus* of the stage. They are out of reach and untouched by Freud, comfortable in his theatre seat with the rest

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\(^{144}\) Weimann 192.
\(^{145}\) Weimann 190.
\(^{146}\) Lovecraft 426.
of the audience. Theatrical ghosts are isolated and part of a different and very familiar world: the popular nineteenth and early twentieth-century stage is a comfortable controlled space of blossoming realism and naturalism, it is, according to Freud, too familiar to be unheimlich.

**Familiarity in the Unheimlich Space**

So what else is familiar to the audience of an Italianate theatre, or more specifically, what was familiar to the audience of the Princess in 1852?

Although it was built as a series of exhibition rooms and concert halls in 1828, T. Marsh Nelson successfully converted The Princess from a small music hall into a theatre in 1840 where it had several boxes and a rectangular pit, it would be refurbished again five years after *The Corsican Brothers* in 1857 to improve, and importantly expand, the auditorium. In order to incorporate a Corsican trap, the Princess would have had to have had a wood stage, a system of traps, bridges and sloats built under the stage level and descending down as much as two stories depending on the size of the stage and the theatre building. As already said, Fitzgerald describes the space back-stage as 'a huge void stretching upwards to the roof, and below as into a mine, where the floor seems to be, and is, really a series of gratings or gridirons supported on pillars... [t]he bars of the gridiron of the stage are simply filled in with planks.' In front of the stage was a great proscenium arch, separating the auditorium from back stage and, as the name betrays, framing the

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stage view of the audience so that they see only 'an eighth part of the whole'. This is what would have been familiar, the homely view of the stage: an ornate opening onto a stage viewed from every seat in the house and only as large as it seems.

Even though it would be logical to assume that the hidden area, back stage is much larger than can be witnessed during a production, it is important not to fall into the relativist trap of thinking that an audience of mass entertainment have any inkling of how a theatre functions, the audience should have rarely, if ever actually seen any member of the stage carpenters and hands who would move and change scenery. The nineteenth century tradition and one which clung on in British theatre at least until the Second World War was to let the act-drop fall. The act-drop was an appropriately named heavily-framed canvas screen usually with an elaborate trompe l'oile painting; the name was appropriate because it would drop in from the fly tower after each act. The drop would mask the workings of the scene change without closing the main house curtains; the curtains usually signified the end of the show and the act drop, a scene change. When the act drop flies out again, the new, often very elaborate scene would be in place, and none of the sanctity of the audience's stage picture view would have been broken or upset.

The stage familiar to a Victorian audience and to the opening night's audience of *The Corsican Brothers* is a highly controlled, isolated, secretive architectural construction. That it is architecture is fairly indisputable, that it is highly controlled and secretive needs more exploring. The surface, which is all that an audience

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149 Fitzgerald 46.
151 The subject of the act-drop was usually befitting to the style of the theatre the act-drop was in. In the Gaiety it is an Arabesque scene, painted in distemper upon linen canvas by William Helmsley entitled *The Lady*. 
member sees, is of dark wood, in some cases, the stage would have a slight rake, inclining upwards to the rear of the stage, but more often than not this was a mere affectation of the architect and there is no evidence to suggest that it would have been the case in The Princess's. That is all the audience member sees, even from the gallery, the wood would have been of sufficient quality and have been cut and stained in such a way to make the traps appear seamless in the expanse of wood. The closest example to a fully working wood stage is at the Gaiety on the Isle of Mann, the stage there is slightly inclined a feature the architect, Frank Matcham, was apparently fond of. The Richmond (built 1899) in London had one as did the Everyman (built 1891 in Cheltenham) and after one hundred years, the Gaiety's still appeared seamless when I visited in 2007. Stood in the centre of the auditorium one can see the full depth of the stage rise from the footlights and sloping gently backwards. The trap covers are neatly stained to match the surrounding wood with a warm, polished-oak colour. Upon closer inspection, the difference between the trap areas and the surrounding boards is much more obvious, but from the audience's perspective the floor looks as though it is just made of wood. There is no reason to suspect that the quality of construction would have been less than this later provincial example.

The stage between the proscenium, viewed by the audience is an ordinary thing, it is a commonplace object, and yet we know that under that object, or rather "inside" that thing, there is a mechanism at work which causes the commonplace wood stage to open up and produce daemons, choirs, graves and cauldrons. These things are contained inside the stage, the stage then is like is a chest or box. Just as
commonplace from outside, but we know, as Bachelard says: 'it opens!'\textsuperscript{152} Bachelard points out in his \textit{Poetics of Space} the opposition between inside and outside, that they are separate but actually intimate: 'they are always ready to be reversed, to exchange their hostilities'\textsuperscript{153} and their opposing definitions. In the theatre, the cabinet-like extra-stage (above what Fitzgerald calls the mezzanine, but is commonly known as the stage floor) and sub-stage (or dessous) are ready to be reversed, the stage is invaded by an inside space whenever a trap is used, but we have a familiarity with that inside space, we know how it works: daemons ascend, angels descend. We know that there is a choir waiting sub-stage for the last act of the opera which will ascend singing the final aria and even though the act drop does not mask their arrival, the sloats do: thin decoratively painted veneers of wood rise up in front of the bridge trap hiding the yawning hole from the audience, the stage surface remains relatively unbroken even though a large section bearing a choir has been revealed. The sloats protect the secrets of the stage, the sanctity of the eighth of the actual space an audience views is preserved, the choir ascends not from an unseen area the same height as the stage picture, but from a hidden compartment of the stage. The stage is invaded by an inside space every time the traps are used and so is the \textit{locus}.

The stage as cabinet is familiar and exciting; the Corsican trap is not familiar and does not do the things we expect: how can it cut across the stage, traversing and ascending? There is no sloat to screen the compartment, there is not a choir rising up to sing the final aria, there is only a solitary figure that not only cuts across the stage but also the sub-stage but leaves no gap or hole in his wake. The Corsican trap

\textsuperscript{153} Bachelard 218.
defeats the 'fixed laws of Nature' applicable to the world of the stage. It is an unfamiliar action in a familiar setting, one could say it was uncanny.

The stage is invaded by not just an inside space made strange but also the theatre's lost *platea*, the bleeding of the mise-en-scene from outside of the *locus* and into the reality of the audience: proscenium theatres have no naturally occurring *platea*, no section of transition between audience and play, where the mimetic realities meet, there is only the break, the beginning of the stage and the start of the auditorium. When the trap functions, the actor slices through not just the solid matter of the stage floor, but through the familiarity of the stage as a cabinet and through the *locus* of the play via an area of *platea* unseen by the audience: the huge void of the dessous that the audience is not allowed to see.

The disobedience of physical objects and their apparent wilfulness not to behave as we expect them to is a phenomenon more commonly associated with stage magic and conjuring. We may currently be talking about stage devices and performers in a stage space, but the appearance of things from out of thin air, or at least from spaces unseen is more commonly found in the sleight-of-hand or digitations of a magician. Here it is seen on a smaller, more subtle scale, nevertheless one of the reasons for the trap's efficacy is perhaps magical in the same way that a conjurer performs their magic. Henry Hay said that conjuring was the art of 'entertaining by tempting a particular audience to accept, temporarily, minor infractions of natural law.' The Corsican trap temporarily defies the belief that the theatre stage works in a certain way, that there is more than can strictly be seen, is both magical and uncanny whilst remaining, or returning to, a conventional space;

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154 Lovecraft 426.
155 In Michael Mangan, *Performing Dark Arts: a Cultural History of Conjuring* (Bristol: Intellect, 2007) 17. Magical and also terrifying by Lovecraft’s definition which also cites the infraction of the laws of nature as a cause for horror in literature.
the possibility that it could be something more, but the belief that it is only what it is creates a tension. Michael Mangan in his *Performing Dark Arts: a Cultural History of Conjuring* says referring to the stage magic of Henry Hay that 'this tension between belief and unbelief between the frame of the fiction and the awareness that it is a frame, is also a major part of the rhetoric of the theatre.'

It is the uncanny that makes magic work and it is the metatheatricality that makes the uncanny work. At the points where 'ambiguity collapses under pressure' are the points where the audiences could believe that there is a ghost on stage. Its unbelievability is why it affects us and our reality. It is a stage ghost which is uncannily upsetting the boundaries of the familiarity of the stage as architecture, stage-picture and as performance space. Freud, however, seems to have remained ignorant of the phenomenon of the play and the trap's efficacy, although theatrical doubles seem to be permissible on film rather than on the stage. Freud refers to Otto Rank's inspiration for his work on doppelgangers but makes little reference to the fact that *Der Student von Prag* is a film of 1913 by Hanns Ewer. Rank's launching place is alluded to in a footnote only as 'H.H. Ewer's story' without reference to Stellen Rye's direction. Given Freud's very literary analysis of Shakespeare's ghosts, it is perhaps plausible that the theatre and film possessed something of the uncanny in their very being, something too large for Freud to comfortably tackle in a small 'aesthetics investigation'. As Nicholas Royle says in his much more extensive work *The Uncanny*, 'Ewer's film is uncanny, because film is uncanny'; it is interesting to note that Royle himself, avoids talking about theatre altogether.

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156 Mangan 18.
157 Mangan 18.
158 Freud 161.
159 Freud 123.
Perhaps even Freud's literary regard for the theatrical ghost would have to be adjusted to allow the uncanniness of the Corsican Ghost: 'if the writer has to all appearances taken up his stance on the ground of common reality... he adopts all the conditions that apply to the emergence of a sense of the uncanny in normal experience; whatever has an uncanny effect in real life has the same in literature.' In this case, some of those elements from life, have meshed together with elements of the literary to produce the uncanny ghost of The Corsican Brothers within the common reality of the stage picture. The trap is set into the friendly cabinet of the stage picture, but its effect has the ability to upset the reality of the play and of the audience in the same motion, and just as Freud's writer 'tricks us by promising us everyday reality and then going beyond it' so too does the trap promise us a normal stage, but goes beyond our usual experience of the wood stage: beyond the idea of ascent and descent and their associations and beyond our assumptions of what is technologically possible and plausible in stage effect.

The Rival

To an audience of Edmund Kean's production, the idea that this uncanny and magical trap forced tensions in the theatrical beliefs of the audience is quite plausible, Arthur C. Clarke, a science fiction author, science writer and technologist developed a set of three "laws" governing the acceptance of fantastic science in fiction. These rather tongue-in-cheek rules are in response to another science

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161 Freud 123.
162 Freud 123.
163 First Law: When a distinguished but elderly scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is probably wrong.
fiction writer's laws of robotics -- Isaac Asimov.\textsuperscript{164} Like Asimov, whose laws are being used in real life robotics computing, Arthur C. Clarke's laws ring true in real life as well. His third law states that any sufficiently advanced technology is indistinguishable from magic; that is to say any new piece of never before seen technology shown to a layperson will give the impression of being magical even though it is technological. In the context of science fiction this is often used to show how technologically young the human race are compared to more advanced aliens. The truism that lies within this law, though, is far from science fiction: ask a child how the radio works and they are likely to answer fancifully. It is interesting then, that the main criticism against Irving's revival of \textit{The Corsican Brothers} by Clement Scott, who is otherwise impressed by the production, criticises the use of the trap and mentions a scientist and a magician in the same sentence:

\begin{quote}
We have improved in stage ghosts since 1852, and there is no reason why the Lyceum spectre should be that of the Princess's: effective then but dangerous now. And why should a ghost come up facing the audience in this stiff and stilted fashion? Is there any reason why he should not be a pathetic and pleading ghost, advancing with outstretched arms towards the brother, or introduced coming gradually along from the back of the enormous stage? Limelight and Magic Lanterns, and professors Maskelyne and Pepper, can give us better than these.\textsuperscript{165}
\end{quote}

It took thirty years for the unquestioned popularity of the device to diminish. It is no longer a shade that is 'astonishingly contrived'\textsuperscript{166} but 'dangerous' presumably because it now courts tedium with its familiarity, or is risibly archaic. Instead

\begin{itemize}
\item Second Law: The only way of discovering the limits of the possible is to venture a little way past them into the impossible.
\end{itemize}

\textsuperscript{164} Asimov's laws were developed over the span of his writing career and featured greatly in \textit{I, Robot} (1950) a collection of short stories and perfected in \textit{The Caves of Steel} (1954).


\textsuperscript{166} \textit{Era} 29 Feb 1852.
professor Pepper, a scientist of the Royal Academy and Maskelyne a stage magician of some renown are introduced as alternatives. Though I suspect that in Maskelyne's case the comment may be meant as facetious: Mr John Neville Maskelyne of the Egyptian Hall was well noted for his debunking of spiritualists, even being called as an expert witness in the fraud trial of a man named Jeffry Simmons who had been accused of 'using subtle craft and devices to deceive' and of 'unlawfully conspiring and combining together by divers false pretences and subtle means and devices to obtain sums of money to cheat and defraud' several members of respectable society.\textsuperscript{167} Maskelyne's testimony consisted of a demonstration of the 'divers means' upon which his show was partially based. His show had begun by touring with jugglers and his stage partner Mr. Cooke in Brighton in 1867,\textsuperscript{168} from there they toured the country with their illusionist acts reaching London in 1873 as 'Maskelyne and Cooke, the royal illusionists'.\textsuperscript{169} Their act consisted of a variety of burlesques and plate dances and, most importantly to this discussion, exposes of séances and spirit manifestations. Maskelyne would stand before the audience in front of the curtain and announce that the performance the audience was about to witness 'was entirely based upon deception, but a deception of a kind not easily detected' \textsuperscript{170} and then would proceed to perform his act upon a well-lighted stage which was as one critic amusing in his naivety, puts it: 'richly carpeted, so that the illusion cannot possibly be assisted by means of traps and operators concealed beneath.'\textsuperscript{171} This was still Maskelyne's act at the time of Clement Scott's criticism of the Corsican trap -- an act predicated upon the idea that it is all trickery and yet never revealing said tricks,

\textsuperscript{167} \textit{Liverpool Mercury} 11 Oct. 1876.
\textsuperscript{168} \textit{Era} 29 Sept. 1867.
\textsuperscript{169} \textit{Era} 9 March 1873.
\textsuperscript{170} \textit{Era} 9 April 1873.
\textsuperscript{171} \textit{Pall Mall Gazette} 20 Nov. 1873.
the carpeted stage could of course have concealed traps and operators, rather better in
fact than a bare wood stage, which leads us to believe that Maskelyne is only half
meant as a viable alternative to the Corsican trap. Pepper, is a different matter
however.

In 1863, Mr. J. Henry Pepper, then director of The Royal Polytechnic
Institute, and Mr. Henry Dircks, a Civil Engineer, submitted a patent\(^{172}\) regarding:
'Optical illusions, producing -- A stage phantom or "Pepper's Ghost"'. This was an
illusion first performed in late December 1862 as part of a "Strange Lecture"
containing a series of illusions and experiments using various optical apparatus to
produce different effects one of which was 'a remarkable illustration of Mr. Charles
Dickens' idea of the "Haunted Mann"\([sic]\) . . . and must be seen to be believed.'\(^{173}\)
Later the effect was described as being 'so real that the spectator hardly believes the
professor when he states that it is mere illusion, a fact, however, which he establishes
by walking clear through it.'\(^{174}\)

The illusion is produced\(^{175}\) by an inclined transparent glass plate which
reflects the image of a performer who stands below the level of the stage and leans
back on a platform inclined so that it is parallel to the glass plate on the stage above.
The platform on which they lean is covered in a light absorbing material suggested in
the patent application to be black velvet while the main stage area was covered in a
contrasting green beize."\(^{176}\)

\(^{173}\) Era 28 Dec. 1862.
\(^{174}\) Era 4 Jan. 1863.
\(^{175}\) See Figures 5 & 6, 73.
\(^{176}\) Rees, T. A. L., and D. Wilmore 9.
Figure 5: Dirck’s Ghost (after Speaight)

Figure 6: Pepper's Ghost (after Speaight)
The effect is created when the lights on the stage area are turned down and the lights on the ghost in the dessous are turned up. The reflection of the ghost appears on the glass in front of the stage area, any actors on stage can then pass "through" the ghost simply by walking around behind the reflection on the plate glass. The inclusion of a large piece of plate glass meant the performance was always limited. The first few productions were of Dickens' *The Haunted Man* and of Bulwer Lytton's *A Strange Story*. Both of these productions were restricted in their theatricality: Pepper would stand out front and introduce them and then would read the stories which were acted out in the stage area. As he read, the ghosts appeared on the stage behind him, apparently next to the actors performing the dumb show. No lines were spoken by the actors, only Pepper and some musicians, who were situated in front of the glass, could be heard. Another restriction limited the effect in terms of performance, one that everyone who has attempted to recreate the device in a performance will be aware of: the sightlines were extremely narrow; only people sitting directly on an eye line with the centre of the stage would be able to see the effect properly. If the audience member was sat too far to the left or too high and the ghost would appear far over to the sides of the action or flat on the stage. If there were patrons in one of the boxes, they would not be able to see the effect at all. Pepper had to keep his audience restricted to the centre of the lecture hall, only an audience who was end-on and not too sharply raked could see the effect; when the Prince and Princess of Wales were in attendance of the illusion, they were escorted to a 'commodious Royal box' which had 'been prepared for their reception'.


bringing in twelve thousand pounds.\textsuperscript{179} The ghost was performed numerous times over the following decades, any rival illusionists using the method being stopped by Pepper armed with his patent.\textsuperscript{180} Only people with Pepper's permission could use the effect, but the illusion never really came close to being used in a real theatre although there was talk of it being used in *The Corsican Brothers*: 'Fletcher considered using it for *The Corsican Brothers*, but in the end the difficulties of combing the massive sheet of glass with the ordinary traffic of the stage seems to have proved too much, and nothing further came of the idea.'\textsuperscript{181}

In the case of Pepper's ghost, there is no opening and invasion of *platea* into *locus*. The action in Pepper's illusion occurs within the *locus*, it is trapped inside the other world, and further distanced from the audience by the absence of dialogue and theatricality. There is no opportunity for the unheimlich, because the stage, while familiar, is never once allowed to be part of the spectator's homely world, it is presented as an effect and demonstrated as an illusion. All mystery and theatricality is deliberately stripped from the effect in its presentation. It is a real scientific phenomenon produced for people's entertainment; what prevents Pepper's ghost from being theatrical, also prevents it from being uncanny. Although impressive as an effect, Pepper's ghost was never more than an impressive illusion, its inability to be used effectively on a stage during a performance held it back from becoming a truly performative piece of stage technology like the Corsican trap. It seems to be a just a simple spectacle, impressive and amazing and something that 'must be seen to be believed'\textsuperscript{182} but not inherently theatrical, only a performance effect, without great performative affect. A transparent apparition floating on stage by solid "real" actors

\begin{footnotes}
\footnote{Speaight 19.}
\footnote{Speaight 20.}
\footnote{Speaight 21.}
\footnote{Era 28 Dec. 1862.}
\end{footnotes}
helps to create an impressive performance, but it cannot be dramatic because it has no literary basis. A literature may be imposed upon it by the narration, but this is separated from the performance by a sheet of glass: it is therefore a performance and literature, but not necessarily a cohesive drama. Its awkwardness on the stage is testament to its limitations, it could never be a viable replacement for the glide trap in a production of *The Corsican Brothers.* The giant pane of glass would restrict the action and reduce the ghost of the brother to a mere contrivance rather than a fully integrated and uncanny element of the production. Ironically, Pepper's ghost remains as uncanny on stage as Freud declared all theatrical ghosts to be, while the Corsican trap produces an uncanny ghost in the way Freud said only literary ghosts could manage.

Is it the theatricality of the glide trap then that makes it a text which is readable in itself not just its spectacle and performativity? The Pepper's ghost illusion is an entertainment and a performance but its physical restrictions make it impractical for use on the stage as a theatrical device. There could also be narrative differences in the devices, differences not just in how they work and their usefulness, but also the ways in which they were presented in the first place. The Corsican trap, forms part of the narrative of the drama, part of the action at the climax of the play. Pepper's ghost was presented as a thing complete and so is similar to set-piece magic.

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183 It is interesting to note how these things gain such notoriety that they get bound up together in the mythologies of theatre and popular cultural history: Mangan also binds them together, but makes a fatal chronological causal error in his history reversing the events surrounding the Corsican Brothers and claiming that Boucicault wrote the play "expressly to exploit its [the Pepper's Ghost illusion] potential for supernatural illusion." Although his surrounding point is a relevant one, the dates Mangan uses are erroneous. Boucicault adapted the *Corsican Brothers* in 1852, the Patent for the Pepper's ghost illusion was not submitted by Dircks and Pepper until 1863. Dircks had earlier presented it to the British association in 1858. To add insult to a historicist injury, Mangan also groups his mistake into the same time frame as the Lumiere Brother's invention of the Cinematographe, which was not until 1896. Mangan 125.
which has its own narrative and, as Mangan points out in relation to Henry Hay's work, is the 'frame of the fiction and the awareness that it is a frame'.

I think that it is this difference which sets these two stage effects apart, and may also hold the key to understanding other stage technologies: the Corsican trap functions directly on stage as part of the wood stage system, it is able to manifest the entrance of a ghost into the world of the stage, it represents an artificial ghost within the represented world; Pepper's ghost manifests a ghost on stage in a performance designed to produce a ghost on stage; it produces a realistic illusion in the real world, it was artifice produced in a lecture and not a theatrical environment; the trappings of the lecture may be theatrical, the stage set, the painted cloth, but the actual effect is not part of the world of representation and therefore fails to be a viable alternative as suggested in Clement Scott's criticism. A modernist divide has been opened: stage technologies which are performative and gratuitous and stage technologies which are performative but utilitarian. Both of the effects are impressive and enduring, but in their differences we have found the basis of an argument: is technology there to impress or is it for service?

The End of the Ghost?

Pepper's Ghost did, however, continue to have a semi-theatrical life for several more decades. When it disappeared from the theatres and the music halls it lived on in the host shows that toured the English fairs - and it sometimes set up in empty shops - during the last years of the nineteenth century and the early years of the twentieth century, until the infant cinema drove them out of business.

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184 Mangan 18.
185 Speaight 22.
The quote above from George Speaight's 1989 essay 'Professor Pepper's Ghost' hints towards the whimsy that surrounds stage effect; it is remembered as something far more important than it actually was, it made Pepper famous and condemned Henry Dircks, the actual inventor, to relative obscurity, a fact acknowledged in his obituary: 'his greatest success was the ghost illusion, which became known as "Pepper's ghost."' It was not, however, his own invention, being Mr. Henry Dircks's'.

The illusion in the format familiar to a nineteenth century audience and to the fairgrounds of the early twentieth century is not often used anymore. The old stage at the Royal Polytechnic is now part of the University of Westminster, and although they hold the annual Magic Laternist Society meetings there, they are unable to stage the effect there again, the proscenium and dessous having been removed some time in the last century. Pepper's ghost is not completely dead to theatre and performance, however, re-incarnations of that technology have found their way into modern theatre performances, theme parks, museums and into several other domestic and theatrical technologies and will be revisited in greater detail in the next chapter.

The End of the Glide trap?

Based on extant material evidence from the Theatre Royal in Bath, the Citizen's Theatre in Glasgow and the Tyne theatre and Opera House, there exists in the Gaiety Theatre in Douglas on the Isle of Man the only Corsican trap in the world which I went to see in operation in October of 2007. Reinstated as part of the ongoing reconstruction work at the theatre, the glide trap was installed for the

186 Graphic 7 April 1900.
centenary performance of *The Corsican Brothers* in 2000. The structure of the trap was recreated in part from the work of Dr. David Wilmore of Theatresearch. The trap follows the description found in Fitzgerald\(^{188}\) and the Eyer manuscript,\(^{189}\) the only concession made to Anderson's speculated framed design is in the wheel-less carriage upon which the actor stands. The runners are greased with tallow and it takes around six stage hands to operate and shift the actor up the incline. With each working of the trap, it is reset and the scruto checked for its synchronicity with the carriage. The scruto itself is of a slightly lighter stain than the rest of the stage floor which makes the scruto visible in bright light, but in the gloom of an appropriately lit scene, the scruto is indistinguishable from the rest of the stage when viewed from the stalls.

In 2007, the Corsican trap reprised its role at that theatre, not in *The Corsican Brothers* but in a production of Gilbert and Sullivan's *Ruddygor*. The role it reprised was its own: the device of a ghost's gliding, traversing and ascending entrance onto stage. The play was different, the context was different but the effect that the glide trap produces is unique and it is read by an audience the same way. Despite its potential versatility as a stage device, the glide trap will forever be synonymous with *The Corsican Brothers*, and, with the exception of the excellent reconstruction in the Gaiety, its popularity and novelty waned with that of its associated play. By May of its opening year it was already 'the eternal "Corsican Brothers"'[sic]\(^{190}\) and readily lampooned in its first burlesque: *The Arcadian Brothers; or, The Spirit of Punch*. From then till the end of the century, the play was much copied and mocked, but none-the-less performed or popular. It was toured by

\(^{188}\) Fitzgerald 46.
\(^{189}\) Anderson 76.
\(^{190}\) *Daily News* 6 May 1852.
Sir Martin Harvey briefly after the Great War but by that time, he had already abandoned the device\textsuperscript{191}, it would be some eighty or so years before the Gaiety revived \textit{The Corsican Brothers} and rejuvenated the glide trap.

Through a study of the nineteenth-century technological representation of a ghost on stage a difference has been highlighted: two separate technologies present two ostensibly similar \textit{effects} with a very different \textit{affect}. Pepper's Ghost is visually spectacular but ultimately a gratuitous stage illusion seemingly incapable of functioning theatrically while being uncanny. The Corsican trap is more utilitarian, produced from the wood stage, the device at once uses and breaks a theatre convention and becomes uncanny. With these two different \textit{affects} a lacuna in theatre studies has been revealed: If technologies can have different \textit{affects} when they produce the same \textit{effect} do other technologies produce their own unique \textit{affects} as well? Can theatre technologies have their own aesthetics and have their own \textit{artistic affects} on an audience?

\textsuperscript{191} Harvey 375; Booth 73.
CHAPTER TWO: A Model for Studying Theatre Technology

Chapter One contains a brief history about the life and use of the Corsican trap. In the process insights were made into the meaning of the device and comparisons were drawn with devices that although not similar physically, presented similar aesthetics and achieved similar affects. Newspapers were used as primary sources to that effect, contemporary theatrical writings were used to analyse the physical workings of the trap and theoretical writings from theoreticians that were outside of the context of the history being written were used to speculate upon the aesthetic meanings of the devices described.

Gauging Popular Opinion

It has been suggested that newspapers were chosen as a good "weather vane" to popular opinion, but this is not strictly accurate. Newspapers are an indicator of what public criticism allows to be popular opinion, and without sounding too conspiratorial, their trustworthiness is to be questioned as all subjective value judgements should be: the writings of one individual speaking for a group are always to be questioned without a body of evidence showing that the group is in concurrence, this is especially true when that person is a reporter and the group the public. When criticising theatre and performance now and in the nineteenth century, it is important to realise that this is the opinion of one person elevated to a position of comparative responsibility and power: if the critic thought that the show was terrible
and they were the sole critic studied then the conclusions drawn are likely to be
coloured by this opinion. Newspapers as a primary source for historical research are
notoriously ambivalent in this manner, but they do reflect in hindsight what the
public may have thought or have grown to think especially if compared over a period
of time. Over time with hindsight the influence of popular criticism on the potential
audience of a theatre show is undeniable, otherwise there would be no point to
popular criticism at all; if people did not read reviews and make judgements based
upon a review, there would not be any reviews at all. This is a rather simplistic
observation, but one that is necessary to make if objective evaluations are to be made
about the audience reception of a piece of theatre. There are also certain reported
"facts" which are presented by newspapers which need scrutiny for example: in the
Daily News figures indicating how many people passed through the doors to see
Pepper's ghost were 'stated to have been already witnessed by 100,000 persons'\(^{192}\)
between the opening in January and the March date of the newspaper in 1863. Who
made the original statement is unknown, the Daily News merely reported it, but the
figure must be scrutinised because that would mean that over fifteen-hundred people
would have to have seen the lecture on every single one of the sixty-five days of its
existence. If it had been only showing five days a week then that would mean over
two-thousand two-hundred people per day would have seen it which would mean
five lectures to over five-hundred people per day for five days a week for nine
weeks. That is a heavy work load by any day's standards. If of course, it were true
and not just hyperbole.

So the critical opinions reported are only an indicator: I can tell which way
the wind is blowing on my weather vane, but I cannot tell how strongly it gusts. It

\(^{192}\) Daily News 3 March 1863.
does however make an interesting framework in which to pin a historical narrative, because only a small portion of the information that can be gathered from the newspaper is potentially spurious, there is also a good amount of archeo-historical information to be gathered in the form of advertisements and announcements, which while they are abound with hyperbole provide more or less reliable facts and dates. In her book *New Readings in Theatre History*, Jacky Bratton appeals to the modern theatre historian to move away from the rigid archeo-historicist method that many historians adopt in their histories of the stage in favour of a new hybrid of performance theory and history 'to filter into the examinations of long-past events'\(^{193}\) like some New Historicist, feminist, cultural and anthropological studies have already begun to do, in order to produce historiographically challenging work. Finding a contemporary theoretical viewpoint is partially what I am intending to achieve, a viewpoint that is both extracted from and informs a historicist study. These newspaper notices are like Bratton's playbills:

> Playbills are the essence of theatrical antiquarianism. They are the solid, comfortable, substantive stuff of theatre history. Long ago they have been extracted and calendared, charted and published, in many substantial volumes from which one may learn exactly how many times each Theatre Royal gave A School for Scandal or A New Way to pay Old Debts, where and when a vanished host of performers made their London debuts and in which roles they appeared.\(^{194}\)

Theatre advertisements and notices fulfil a similar function, they are newspaper-bound playbills and through them it becomes very easy to chart chronologically the whole lifetime of a show: when did it play, who played in it, where did it tour to, who else opened with it, how many versions ran concurrently, when was it revived? Putting flesh on these bones with the somewhat more spurious popular criticisms in

\(^{194}\) Bratton 38.
the same papers can lend contrasts and comparisons which may not otherwise be apparent. Take, for example, the most eminent criticisms of the time of Pepper's ghost; criticism not levelled at the effect, like Clement Scott's criticism of the Corsican trap, but of Pepper himself: a critic in *The Times* in passing observes a minor irritation in the fact that even when the illusion is shown as part of a scientific lecture, 'the spectator is as much as ever at a loss to understand the modus operandi by which the delusion is so perfectly brought about.'\(^\text{195}\) Printed in a rival newspaper on exactly the same day another critic takes issue with the same lecture saying that Pepper 'leaves his hearers completely in the dark upon the laws of reflection and the peculiar arrangement of the mirrors concealed behind the footlights, upon which his "illusions" depend.'\(^\text{196}\) So despite the framing device of a scientific lecture, Pepper never actually explains the science in any level of precise detail -- a method popular with magicians like Maskelyne, who although stating that his performance of a séance is performed using devices, never actually explains what those devices are. Pepper's fierce protection of his method and the patent involved does not diminish the regularity with which the illusion is presented to an audience which remains in the dark. The advertisements would lead a scholar to believe that the lectures Pepper gave were of a legitimate variety, concentrating upon the physics of light and optics, but the popular criticism gives an indication that this is itself, part of the illusion. The criticism does reflect interestingly upon a short piece from *The Times* some years later in 1871 when Henry Dircks, the real inventor of the ghost and the joint owner of the patent finally loses his patience with the showman scientist:

> Mr, Henry Dircks, C.E., the inventor of the optical apparatus affording the entertainment popularly styled "the ghost" objects to it being

\(^\text{195}\) *The Times* 7 April 1863.  
\(^\text{196}\) *Daily News* 7 April 1863.
described as Mr. Pepper's "Ghost," which may lead to the supposition that the later is the inventor. Mr. Dircks states that two years before the "Ghost" was exhibited at the Polytechnic institution he had read a paper at the Leeds meeting of the British association on his phantasmagorical apparatus for producing certain curious optical illusions tending to illustrate some of the phenomena of apparitions.\footnote{The Times 27 Dec. 1871.}

The supposition that Dircks loses his patience with Pepper is drawn from more than just these three illustrations from newspapers. They are linked back to the evidence of the patent itself, submitted by both Dircks and Pepper as 'Optical illusions, producing -- A stage phantom or "Pepper's ghost"'\footnote{Rees & Wilmore 9.}. The convenient narrative produced here is romanticised in the same way that the historian Herbert Butterfield implies that the relativism of whiggishness is tempting and hard to resist in the writing of any history\footnote{Butterfield. The Whig Interpretation of History 83.} and is one that compels a historian to write a narrative that is based on history without ever contextualising or realising that there are events on the peripheries not illuminated by exclusive historical analysis and research.

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**The Threat of Technology**

There is a perception among technologists that their work is seen by artists of the stage as a threat to theatre art. This is a perception echoed by Scott Palmer and by the popular press. Palmer's concern is chiefly with the director Peter Hall who tentatively suggests that: 'Advances in technology have allowed for greater scope, potential and excitement but has also created potential problems in the cohesiveness
of making theatre'. Palmer feels this view of theatre technology suggests that it is 'at odds with the nature of making performance work' that its impact is detrimental or at the least obstructs the creative process and makes the creation of theatre 'difficult.' Palmer suggests that because of this, technology is 'seen as distracting from the very "liveness" of the performance event, an unnecessary adjunct, and diversion from the primacy of the performer, the text and the spoken word.'

Palmer's fears certainly seem to accord with popular press. This study has already explored the tentative and ambiguous nature of the popular newspaper critic as a reliable historical source and has established that newspapers do sometimes give an indication to the generalised public mind set. Further to this we can and add that modern newspapers are even more dubious as reliable sources for historical study. Despite this, as the study has pointed out they do reflect a perception of popular opinion, one which Palmer professes to feeling as well, so at this point the web-log column of Guardian critic Lyn Gardner can also be introduced. Gardner in one article wrote: 'Modern theatre relies too much on technology', she said that 'technology has become the show, rather than in service of the show'. In her column she explores specifically the world of modern multimedia theatre performance, reminiscing how back in the 1980s she remembered 'once joking with a colleague that the growth of computer technologies would eventually lead to a situation where actors become redundant and we would simply go to the theatre to watch the set.' This critical view is both historically and theatrically somewhat

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201 Palmer 106.
203 Gardner 17 April 2008.
naïve: the theatre periodically seems to undergo great changes in the popular form, moving from serious drama towards more spectacular forms shown quite neatly in Bratton's previously mentioned work on playbills. At a time in 1831 an event Bratton calls the 'decline in drama' is reflected in the type set of the play bills where the font size of the legitimate drama is smaller than that of the crowd pleasing spectacle.\footnote{Bratton 41.} In fact, the postdramatic observations provided by Hans Thies Lehman partially in response to Szondi's crisis in drama suggest a general divergence in popular forms and a movement there towards spectacle and entertainment as highlighted by the proliferation of musicals showing in the modern West End.\footnote{At the time of writing (September 2010), public arts funding is expected to be cut in a few weeks time. In a testament to how comfortable the West-end is with its own popularity, Cameron Mackintosh, a world renowned British musical theatre producer, made a statement to Arifa Akbar in the Independent stating: "The commercial and subsidised theatre are intrinsically linked. I would not have had the career I have had without the opportunities I had through the subsidised sector. However, I do think, in any walk of life, subsidy for the sake of subsidy is not always healthy. Sometimes, thinking on your feet can be the most creative. Constrained circumstances can bring the best out of you. Some of the most successful shows come out of shoestring invention.". 'Cuts needn't be bad for creativity' Independent 20 Sept., 2010.} Erika Fischer-Lichte, responding to a Western 'cultural crisis' of the nineteenth century, posits that modern, less commercialised theatre has actually moved from presenting spectacle and illusions of reality.\footnote{Erika Fischer-Lichte, 'From Theatre to Theatricality – How to Construct Reality' Theatre Research International 20.2 (1995): 97-105.} Fischer-Lichte considers the avant-garde and post-modern theatres of the twentieth century to have allowed an audience to establish their own self-conscious constructions of theatricality while watching any performance. This state of spectatorship was established by the shifts in theatrical representation afforded by the emergence of 'non-coded theatrical sign systems' emphasising the materiality of the stage.\footnote{Fischer-Lichte, 'From Theatre to Theatricality' 102.}
The Omnipresence of Technology

The previous chapter on the representation of stage ghosts is also testament to the idea that technological spectacle has played an important part in theatre beyond just those examples, an idea that maybe theatre has had a long history of technological spectacle woven into the strands of performance since theatre began. Certainly Joseph Harker in his book *Studio and Stage*, a thinly veiled autobiography of 1924 masquerading as a history of scenic painting, would have been surprised to learn that people sixty years after his book was published did not go to the theatre to admire the set.

Joseph Harker, one of the most significant stage painters of the nineteenth and twentieth centuries was convinced that the new movements in theatre design which favoured the sculptural over the pictorial would be the end of theatre just as Gardner feared the technological presence in contemporary theatre design. Harker spends most of his book asking 'why must progress lead us into the wilderness?' and does a great deal of proselytising against what he refers to as the "advanced movement" of the 'ultra-moderns' while arguing for the subtlety of his own scenic art '[t]o create an undisturbing illusion . . . the background should be forgotten the moment the play begins, always providing, that is, that the actors are good enough to hold the audience.' Harker's arguments are thwarted throughout his book by his

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208 Famously, the Globe burnt to the ground in 1613 when a cannon was fired for spectacular effect during the opening of Henry VIII. The wadding ignited the thatch roof and according to an account from Sir Henry Wotton, the fire 'ran round like a train, consuming within less than an hour the whole house to the very grounds.' Quoted in: E.K.Chambers *William Shakespeare* (Oxford: Clarendon Press, 1930) 343.
210 Harker 185.
211 Harker 195.
fundamental dichotomy: the backgrounds may have to be 'undisturbing illusions' but heaven help you if you don't comment upon how admirable they are in review. In support of Harker's stance against the advanced movement of designers, specifically targeting Edward Gordon Craig at one point, Harker includes as proof of this: two chapters of praise for the marvel of his own work. The chapters are entitled: 'The Advanced Movement' and the 'Advanced Movement cont.' Within these chapters are letters of reference presented as 'opinions of various well-known dramatists, managers, producers, actors, and playgoers, as well as artists' including among their number: George Bernard Shaw, Louis N. Parker, Sir Arthur Wing Pinero, Sir John Martin Harvey and Edward Gordon Craig himself. Where Harker would say 'more brush, and a little less chisel and plane', Gardner might say "more chisel and plane, a little less chip and pin."

Ignoring the main thrust of Gardner's opinion for the time being as being one of predominantly anti-multimedia and audio visual technology used in theatre as opposed to general technological spectacle, she does strike upon a relationship between service technologies and spectacular technologies, a relationship which Christopher Baugh also refers to:

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212 Harker 184-202.
213 Harker 202-224.
214 Harker 185.
215 After having first implied that his work should be collected with names such as Sabatini and Inigo Jones, this was Craig's response to Harker's challenge: "Your kind suggestion that I should write you my 'views' for incorporation in your book does not appeal to me; and for this reason. I cannot believe that your readers would be at all interested. I feel certain that I voice the opinion of a large public when I say that it is you and your views that they will want to hear – your trials and your achievements.". Harker 211.
216 Gardner 221.
217 Recently Gardner has seemingly reversed her views, in a recent Guardian blog entry she wrote: 'rather than being scared of technology and seeing it as a threat to real-world social interaction . . . why don't we embrace these new technologies, and use them to develop new forms of theatre?' Lyn Gardner 'A New Stage-age; Why Theatres should embrace digital technology' guardian.co.uk. 24 March 2010, 21 July 2010. <http://www.guardian.co.uk/stage/theatreblog/2010/mar/23/stage-theatre-digital-technology-ished>
Stage Technology, machinery and special effects have always been a part of the experience of theatre and performance. Often they have been used as a means to an end: to shift and illuminate scenery, or to simulate events and actions that could not have easily been presented in performance . . . But also technologies have frequently been used as an ends in themselves, where the gasp of awe and amazement at their operation has been a significant aspect of the experience of performance.\footnote{Christopher Baugh \textit{Theatre, Performance and Technology: the Development of Scenography in the Twentieth Century.} (New York: Palgrave Macmillan 2005) 1.}

Once again we have the idea of technology as a means to an end and as an end in themselves: Baugh refers to the machinery of the stage which acts in service and the technology which serves as spectacle. This is a relationship, which is implied by Gardner and identified by Baugh, but it is a relationship which beyond being alluded to is never examined in sufficient depth: what boundaries delineate the modernist difference between gratuitous technologies and utilitarian technologies. In theatre this lacuna is very rarely discussed and to my knowledge has no model applied to it.

**Performative and Servile**

As with the oppositional positions I revealed between the reception of the Corsican trap and that of Pepper's ghost, Gardner too sets up her opposition: technology that can perform against technology that is in service. To expand upon this and to increase the precision of the difference: one is theatre oriented around spectacular technologies or technologies which are performative, its opposing theatre unencumbered by them and attended by invisible service technologies.

Gardner firstly supposes that technologies are performative, they could easily replace actors and be watched alone as performances in their own right although she
does not go into details as to why this is threatening. I am inclined to agree with the possibility of such technology: I postulate that these technologies, evidenced by the glide trap and Pepper's ghost do exist and are specific to their use in the theatre or in performance. The Corsican trap as explored was never really used to produce anything other than a ghost on stage and though comparatively more theatrical as a stage device than the Pepper's ghost illusion, that too had a single specific use.

**Beginnings of a Model**

These performative technologies could therefore be referred to as *specific* theatre technologies -- a theatre technology invented for a special purpose could be said to have a certain specificity. For our purposes a *specific* theatre technology, or a technology which has specificity, is a "one trick pony", usually something spectacular designed exclusively for one event or one theatrical effect. An example of a theatre technology which is specific to its use would be the Corsican trap, examined in detail in the previous chapter. When *The Corsican Brothers* became a success it was staged in other theatres around the western hemisphere and where it went, so too did the trap, apart from the one production of *Ruddygore*, I know of, and can find, no other instances when the trap was not used specifically for *The Corsican Brothers*, and in *Ruddygore* it was used specifically for the entrance of a ghost.

This term *specific* is crucial to understanding an aesthetic aspect of technology. A *specific* technology is singular in its use and in its meaning, it used for one aesthetic purpose.

In opposition to specific technologies are technologies which fulfil many roles, which are used to serve the action of the stage. These service technologies are
what Gardner thinks of as invisible and non-performative and do not distract from the action of the stage or performance. They help support what Georg Fuchs called the 'plastic arts' of the stage creating the drama by 'ingenious inventions that made possible a more rapid handling of stage machinery.'\(^{219}\) The 'revolving stage and the shift of scene without a curtain'\(^{220}\) are examples of this invisible technology aiding the plastic space. Fuchs' intention is to use the semantically defined word plastic not as a noun to mean the polymer material, but as an adjective to refer to an art that is dynamically shapeable and able to maintain that shape in three dimensions giving formal expression. Theatre is such an art, but plastic does not quite go far enough to describing what these technologies actually do, it only implies a malleability of form and function. The term \textit{psycho-plastic}, was first coined by a group of New-York artists in 1922 called The Invisablists who took over and converted an old town building into a gallery and presented an exhibition of blank spaces and empty rooms asking their patrons and the public to fill the spaces in with their 'agile minds.'\(^{221}\) The term infers that the theatre technologies it is used with are not only adaptable and versatile physically but have an element of imaginative malleability as well; they can often have multiple uses and are used to support the illusory nature of the performance, they enhance the space that they are used in, in such a way as to increase its versatility. 'Psycho-plastic' was also used extensively by the Czech scenographer Josef Svoboda in conjunction with his theories on polyscenic space which 'is an expression of a free and many sided space time operation, in which one and the same action is observed from several optical and ideational angles which set

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\(^{220}\) Fuchs 79.

\(^{221}\) \textit{New York Times} 30 March 1922.
cause and effect next to each other and take their measure.'\(^{222}\) The action performed in polycenic space proceeded in tandem with other action on the stage, each part of the stage able to represent an individual area of space and general areas at the same time. The audience would observe all of the action and decide for themselves which area of the stage represented, or was occupied by, whichever section of performance action. With these theories, Svoboda pioneered the use of black box studio spaces calling them 'psycho-plastic space, which means that it is elastic in its scope and alterable in its quality. It is space only when it needs to be a space.'\(^{223}\) Psycho-plastic for Svoboda represented a quality which extended Fuchs' definition of plastic art into the imaginations of the spectators where the three dimensions of plasticity grow into the fourth of time and replicate themselves to infinity within the minds of the audience. 'Space only when it needs to be space' is not artistic obfuscation but a serious suggestion, the space that is _psycho-plastic_ has only the limitations of the human imagination to restrict it. An audience-centric idea which is not without corroboration: Vsevolod Meyerhold once asked the question, 'how did medieval drama succeed without any stage equipment? Thanks to the lively imagination of the spectator.'\(^{224}\) It is in this way that service technologies function, they are not merely devices but things which manipulate the way an audience perceives the space.

This is the opposition to the _specific_ technology: a _psycho-plastic_ technology therefore would be one of Lyn Gardner's "service" technologies, a technology which is technology only when it needs to be and when in use is an invisible part of the production of the theatrical event. A _psycho-plastic_ technology is not a unique

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\(^{222}\) Svoboda, _The Secret of Theatrical Space_ 21.


device for a unique purpose with a unique meaning. *Psycho-plastic* technologies are versatile, adaptable and have many layers of meaning imposed or read into them by the audience usually unconsciously. These are technologies which are not noticed and do not stand out as something *specific*. These technologies support the theatrical production and I would argue maintain the *psycho-plastic* nature of the performance space. Take for example a technology integral to modern lighting design: DMX (Digital Multiplexing) control technology offers incredibly convenient ways to control very large lighting systems. The lighting rig in any modern theatre is made up of a collection of different lanterns focused in different ways specific to a state for each scene. DMX is a hardware based computer protocol, found as standard in every modern lighting desk or computer, which allows the lighting designer to control the lighting rig, not just as individual lights but as whole systems of different lighting states. DMX is a technology able to fully manipulate the aesthetic environment of the stage in conjunction with other adaptable and versatile lighting technologies such as stage dimmer packs (power supply units for stage lamps) and intelligent moving head lights (DMX controlled units which focus shift and dim by DMX remote control), Nick Mosby author of Practical DMX cites the technology as 'most important single contribution to the entertainment lighting world since Fred Bentham launched his Light console in the 1930s'; 225 it becomes like Svoboda's psycho-plastic space: 'fluidly responsive to the emotive demands of the action' 226 it is also only as visible as the instruments it controls.


Further Complexity

Having said all this it is easy to think of these things as merely one thing or the other: that psycho-plastic only refers to the serviceable theatre technologies; that anything specific is only spectacular. If we are in a system of opposition then we are pitting the invisible against the visible, however these are concepts which do not settle so easily into opposition. Even though our opposition seems set, *specific* versus *psycho-plastic*, *performative* versus *supportive*, the model cannot stay that way. The previous chapter postulated the idea of oppositional technologies in response to Clement Scott's criticism of the Corsican trap and Gardner's complaint brought up the current dialogue of service technologies and performative technologies.

Meyerhold was not the first to appeal to a simpler form of the stage and he certainly was not the last; appeals to theatre history often centre upon the simpler times of the Ancient or Early-modern stages and it is an appeal that is often sounded when technologies are used on the contemporary stage. When Robert Lepage's *Elsinore* failed to open in Edinburgh for the Festival in 1996 the appeal was immediately sounded: 'Maybe Shakespeare was better off with a wooden O and lots of human bodies than with lots of computers and a lone Lepage.'\(^\text{227}\) The main piece of Lepage's set, a gigantic computer-controlled load bearing screen which could move in six directions had broken down upon the stage of the King's Theatre. The Press were less than kind describing the incident as 'sad and disgraceful'\(^\text{228}\) amongst other more colourful comments. Christopher Innes describes the set of *Elsinore* as Craigean:


\(^{228}\) John Peter, 'Must the Show Go On?' *Sunday Times* 18 August 1996.
In the centre of the acting area stands a circular frame with a square central opening. This can revolve horizontally like a great wheel or vertically as a spinning coin -- presenting Gertrude's bed when flat, a window or door when upright, a web in which all the characters are caught, with a throne suspended in its centre for LePage as Claudius, or with white lace stretched across it, through which LePage puts his arms and head to appear as Ophelia.\footnote{229}

Lepage's stage machine was polyscenic, able to morph and shape the confines of the theatre to add simultaneity and multiply the spatial areas of the action, it was the very definition of the psycho-plastic stage technology \textit{and it was visible spectacle}.

\section*{Popular Misconception}

It is ironic that the criticism of the press which rails against the technological and appeals to the simplicity of the Early-modern stage also rails against something which actively charges the audience's imaginative processes in the same ways that the Early-modern stage did: Shakespeare's 'wooden O'\footnote{230} was a piece of psycho-plastic architectural theatre technology, Lepage's psycho-plastic mechanised stage was computerised.

We could dismiss this irony as journalistic expedience: these are just journalistic opinions designed to influence, or possibly reflect public attitudes towards theatre technology. The ambivalence expressed by the press and by


\footnote{230}It is important to note here that this study, while it will allude to the Shakespearean and Early-modern theatre will not look in detail at those periods. I am aware of the theatre technologies of those periods and while fascinating in their own right, a critical detour will contribute little to the route of my arguments.
Meyerhold and everyone else who appeals to a simpler way of theatrical life, did not begin the discussion because the discussion has been going on for some time, not in the critical press or even in academic criticism, but within technology itself.

The Beginnings of a Model

A model is needed that accepts the possibility that technology and theatre have had a long and complex relationship and that looks at theatre technology as something worth scrutiny. We also need a model that can take into account the stage machinery left to moulder in the under-stage space of the Gaiety, the paddle handles, grooves, runners and the grave trap found in amongst other 'theatrical junk'\textsuperscript{231}.

Katherine Hayles in \textit{How we Became Post Human} suggests that 'within archaeological anthropology, changes in artefacts are customarily mapped through seriation charts.'\textsuperscript{232} These are diagrams which measure usage over time, by collating archaeological data found within different strata of earth in archaeological dig sites. For example, a small amount of blue glazed pottery could be found at the oldest level of the site, a greater and greater amount in the layers above, eventually decreasing as the layers built up and the use of that particular blue glaze declined. The chart that would be produced often takes a lenticular shape or the shape of a tiger's eye, starting thin, growing to maximum usage and then declining again. A seriation chart would be used to map-out accurately the "life" of a particular artefact and mapping

\textsuperscript{231} Mervin Stokes, \textit{Saving the Gaiety and Other Misadventures of a Theatre Manager} (Douglas: Lily Publications 2006) 57.

'technical artefacts help to make an information theoretic viewpoint of everyday life'. In the theatre the seriation charting of technologies would be too reductive and constrictive in its quantification of devices; a chart may give an indication of how many of the same artefacts were used over a period of time and can be a good tool for an archaeologist to use to map chronologies that are independent of the context of artefact recovery. Although important for producing empirical facts to underpin histories, this methodology would be too restrictive here, my aim is not to produce a historical survey, but to produce an aesthetic language using historic and contemporary examples; this depends entirely upon the context of my artefacts and seriation charting would restrict the argument because it does not allow for the contexts of the theatre devices we are looking at to interact with each other. Although some form of seriation awareness inevitably takes place in the construction of these arguments, this study is also very much aware that the empirical data used in the formation of such charts invariably annihilates the possibility that in theatre there may be no such thing as obsolescence.

Cycles and Obsolescence

Technology is a process which happens perpetually through use, often it is referred to as cyclical, certain technologies undergo periods of common use and of redundancy and more and more often technologies are referred to in the public sector as obsolescent, disposable or past their usefulness. In theatre, this is not so frequently the case, theatres often hang on to old bits of technology for years in case

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233 Hayles 19.
they are needed again. The same goes for scenery, rostrum and larger stage devices. This is not merely an indication of the (stereotypically innate) thriftiness of theatre technicians,\textsuperscript{234} it is an indication that the boundaries of the relationship between specific and psycho-plastic technologies can be very blurred, and often when technologies fall out of use, they re-emerge in a slightly varied form. What may start out as an innovation specific to an effect may fade into the background and become a commonplace device supporting the stage action; and what may have always been in the service of the stage could suddenly find itself the object of spectacular curiosity and fascination. The relationship is much more fluid and less antagonistically oppositional than I previously suggested and is perhaps best illuminated in the varied names awarded to the Corsican trap, the ghost glide and the glide trap.\textsuperscript{235} These three terms are names that were used at various times: the Era referred to it as the 'Corsican trap and other machinery'\textsuperscript{236} in 1854, David Anderson's 1984 article was entitled 'The Corsican effect or Ghost Glide', and there are references in the prompt copies of \textit{The Corsican Brothers} to the 'sliding trap'.\textsuperscript{237} The multiple names of the trap suggest multiple attitudes towards it: to Charles Kean's prompters, compiling their set lists and stage directions for the first productions of the play, it was simply a "sliding trap" it having no other associations other than those it was to be used for in the performance, it had been made as a specific piece of stage machinery, but it was part of the psycho-plastic wood stage system; a psycho-plastic technology capable of producing within itself a number of specific individual effects. When \textit{The Corsican}

\textsuperscript{234} The three major UK theatres in which I have worked as a theatre technician have each, independently, had a space in a corner of a workshop referred to as a "graveyard". In this area, technologies which have failed electrical testing, or have simply been replaced by more modern versions, await recycling into new systems or spaces.

\textsuperscript{235} Although I can find no reference to it going by this name now, I was first introduced to the device as a "glide trap" as a trainee stage hand in the late nineties.

\textsuperscript{236} Era 3 Dec. 1854

*Brothers* became famous, the name became the "Corsican trap" and its effect was specific to that one play and presentation of that ghost. As the trap fell out of use and was rediscovered by scholars like Anderson, the name also changed suggesting that it could be used for the presentation of any ghost because it was a "ghost glide". Anderson's adaptation of the device and speculations on how it could work more effectively make the device more psycho-plastic again, but it is still the Corsican trap, and it is still the ghost glide, and a sliding trap.

**Further Processes**

Theatre technologies can be *psycho-plastic* and *specific* at once, the relationship between these two states being fluid and constantly moving and also relative to what they are being used for or from what historical or cultural perspective they are being viewed. As theatre technologies move through time they fall in and out of use, but they do not just become obsolescent; they change in ways that make them more psycho-plastic or more specific. As the Corsican trap has only ever been used for the presentation of a ghost it is a predominantly specific technology; its elements of psycho-plasticity are merely an aspect of it. As a specific theatre technology it has potential to be a psycho-plastic technology. So to this model I would like to add two more terms to show how these potentials are realised in a fluid system: They are the processes of *diversification* and *re-invigoration* and they bind the two qualities of *specificity* and *psycho-plasticity* together into a system:
Diversification is when a specific technology begins to be used for another purpose other than the one for which it was originally intended for, diversifying from its intended use towards another different use. It is a technology that is being used aesthetically in a way it was not previously intended. The forces pushing technologies through this model are very varied and are not directly part of this investigation but in the examples I give there is a definite materialist and traditionalist correlation between stages of the model. Money in the modern theatre is a very persuasive force and the biggest exponent of diversification in this technological model. A specific technology can be forced by materialist gravities into a diversified service role, one that is much more psycho-plastic than the impetus for the invention of the original device.

A re-invigorated technology is one that has not been used in an aesthetically interesting manner for a period of time. The main force behind the re-invigoration of technologies is most likely to be the gravity of "theatre tradition". The theatre industry likes things that work smoothly and when something works and becomes familiar, traditions grow up around it. The theatre is full of such examples, some of which spin away to become fixed and adhered to almost as superstitions, while others attain the status of traditional good practice, but these subjective affections for methods and processes are turned into "traditions" over time by constant use.
A good example of technology *diversifying* and *re-invigorating* occurring in western theatre is the emergence, stagnation and rejection of the use of the proscenium arch. The proscenium arch was an architectural technology and once an essential part of the wood stage system\(^{238}\) and a vital component to the nineteenth-century stage picture; with the crisis in representation and the scenographic reforms of the twentieth century, the proscenium arch has found itself rejected by many modern theatre practitioners in favour of less aesthetically obstructive and more psycho-plastic stage divisions (or lack thereof). Essentially the proscenium arch was initially introduced to the British theatre in homage to the Italianate stage adding respectability and enabling the use of masking and wood stage devices to produce previously unattainably spectacular results, using stage painting, scenery and gas lighting. It was a very good example of a psycho-plastic technology: omni-present and ignorable, unspectacular in its function and yet it had the power to produce a 'quasi-religious image of the ideal'.\(^{239}\) The proscenium arch was developed from the *théâtre à l’italienne* and used to frame 'a perspectival stage laid along a central access'\(^{240}\) which privileged the visual aspects of the theatre above others.

This frame, separating the social interactions of the auditorium with the increasingly pictorial stage, was a prevalent architectural theatre technology

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\(^{238}\) The proscenium arch was once necessary to mask the back stage area of a wood stage system, but it has become an unnecessary device for a wood stage system to function effectively. The renovated and transformed Memorial Theatre of the Royal Shakespeare company at Stratford-upon-Avon (opened 24 November 2010) has retained its original dessous area (though the machinery of the twenties has long since been replaced) and added a new area of similar volume beneath the new thrust stage. The value of such an sub-stage space has been acknowledged in this design, but not the necessity of masking. The old proscenium has been pushed back and, though it still exists structurally, forms little or no part of the scenographic practices of the new space.

\(^{239}\) Wiles, *A Short History of Western Performance Space* 52.

\(^{240}\) Wiles is historiologically aware enough to not put an exact date on the "birth" of the Proscenium arch, attributing its gradual rise with movements towards its development within the late Italian renaissance. Wiles 214.
throughout the eighteenth and nineteenth centuries.\textsuperscript{241} It framed and hid the stage space from the audience at the same time: framed it by directing the audience's gaze into the world of the stage picture, and hid it by masking the parts of the stage that were not meant to be seen, so that only an eighth of the actual stage space could be seen through this frame.\textsuperscript{242}

The proscenium arch must have become so prevalent by the start of the twentieth century, that practitioners and theorists actively started rejecting its aesthetic and started to move away from the stage picture and its frame and began searching for something else. Even though an outright rejection of all proscenium theatres was never realistic in practical and material terms, the work of designers and reformers like Edward Gordon Craig, Adolphe Appia, Vsevold Meyerhold, Alexander Tairov and Walter Gropius strove to make theatres without any restrictions between the space of the audience and the space of the performance. The proscenium for them was the divide between the audience, who should be part of the scenographic experience, and the performance, which should reach out to the audience, without the restrictions created by the use of a proscenium arch. They challenged its use seeing it as affecting all the 'received notions of self, space society and representation'.\textsuperscript{243} Herbert von Herkomer, one of Edward Gordon Craig's unsung influences, really began this exploration by working on ways to make the arch more specific in its use producing designs for a proscenium arch which could alter its size and shape mid–performance to increase the versatility of the stage.\textsuperscript{244} Through controlling the size and shape of the proscenium arch he re-invigorated the

\begin{itemize}
\item \textsuperscript{241} Wiles 223-227.
\item \textsuperscript{242} Fitzgerald, The World Behind the Scenes 25.
\item \textsuperscript{243} Wiles 235.
\item \textsuperscript{244} Christopher Innes, Edward Gordon Craig: A Vision of the Theatre (London: Routledge, 1998) 31-36.
\end{itemize}
idea of it acting as a frame, he made it a specific stage device, used to narrow down and direct the gaze of the audience, and not just a psycho-plastic one which enabled the framing of mimetic depiction.

In some modern theatres the proscenium arch, far from being an invisible support technology has also been re-invigorated to be more specific in its use and is seen as a specific element of stage design with connotations of "traditional dramatic theatre" and not a device in service of the technology. Josef Svoboda in particular, contrary to the anti-proscenium attitudes of his theatre reformist forbears admired the proscenium arch in its specificity as the 'most theatrical space available' and embraced the proscenium along with end-on tiered seating as something socialistic and theatrical: everyone has the same view of his theatrical stage picture.

With this shift in attitudes towards the proscenium arch there is also a shift in attitudes towards space and the technologies bound up within those spaces. In a way it is the irony of this re-invigorating shift that the proscenium arch has taken and technologies similar to it and their transference of use and popularity that was the main spur for this study. The historical re-occurrence of familiar stage devices and the seemingly cyclical fashions of scenographic ideas is something that is fascinating, but perhaps a more complete technological example of this cycle is needed.

The Pepper's Ghost Illusion Revisited

The Pepper's ghost illusion, a simple optic effect, is a spectacular stage effect produced by a specific stage technology. As it became popular, the technology

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began to diversify: by 1865 (two years after it was patented) five more patents were submitted by different people adapting the illusion to fit a variety of spaces for a variety of uses all, for the most part, producing ghost illusions on stage or in travelling carnivals and side-shows. The Royal Polytechnic's ghost went on the road and became a famous stage effect, but it is not really an effect which was used in large theatres nor did it ever really get used to produce any effect other than to represent the appearance of a ghost.

Though it would seem that at first glance this technology is one that is specific to its effect, a technology of spectacle, the Pepper's ghost illusion did have the potential to be more performative in itself. In the 1960s, Svoboda in his practice as a scenographer and stage director experimented with similar optical tricks with his *Lanterna Magika* Company using semi-translucent plastic and glass to shift the action about the stage and reveal extra spaces and scenes, supplementing his use of projected images and film. In a reminiscence of his 1968 production of Gombrowicz's *The Wedding*,\(^{246}\) he sets up using the Pepper's ghost principles 'glass walls placed at a diagonal on stage'\(^{247}\), because the effects he wanted to achieve could never be realised using traditional sets and flies and machinery: 'At certain moments the wall became transparent, at other times it functioned as a mirror or as a projection surface on which a character would see himself, his own image evoked by memories and the way he imagined himself to be.'\(^{248}\) The effect used embraced Svoboda's idea of the polyscenic space, it 'broke up the linear continuity of a theatre action'\(^{249}\) in a manner which depended on how the performer, and ultimately the audience, used

\(^{247}\) Svoboda 27.
\(^{248}\) Svoboda 27.
\(^{249}\) Svoboda 21.
their imaginations to build meaning into the performance. Maybe there is a ghost of the past within the semiotics of the imagery used by Svoboda, but the technological principles developed by Dircks and Pepper were being used to present something very different to a stage apparition. The technology proves itself in this work to be more adaptable than just the presentation of a ghost, it has diversified and is being used to make a stage space more psycho-plastic – the effect becomes one of transition: altering and shaping the viewed space, there is still an amount of spectacle involved, but the optical effect fulfils a psycho-plastic role.

Now let us skip forward another fifty years or so to where the theatre world and the world of events and conference have started to meld together. Again an example familiar on the modern stage where often modern theatre technologies are developed in the affluent events and conference worlds the centrifugal force is once more one of a materialist nature. The major theatre technology trade shows are almost exclusively dominated by events companies selling their spectacular and specific conference and events technologies and it is here that you will find Cisco Systems who use Pepper's Ghost for "3D conferencing", sending people all over the world electronically to appear as a live illusion on stage. So-called 'holographic video conferencing' is available now from several companies but most prominently from Cisco systems and their 3D Eye-liner. Here state-of-the-art High Definition video conferencing and state-of-the-art HD Video projection have been combined with reinvigorated back-in-the-day nineteenth-century Pepper's ghost technology with promises that:

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250 Dimensional Studios 22 November 2009.  
<http://www.eyeliner3d.com/Cisco_telepresence_holographic_video_conferencing.html>
Over time, it might even be used at home. Your grandmother could virtually walk into a living room and talk to you - her image travelling over seas and countries over the Internet. A teacher could face 50 students and give a lecture complete with expressions and body language. The possibilities of this decidedly realistic application are numerous.\textsuperscript{251}

A re-invigorated Pepper's Ghost illusion has also been used in fashion shows where a "hologram" of Kate Moss appeared in a glass pyramid at the 2006 Paris Fashion Week to promote the Alexander McQueen Fall / Winter collection. More recently at the SS '08 Preview collection where the Diesel "Liquid Space" show, directed by Wilbert Das in Florence, exhibited high fashion on a catwalk occupied by live models while ghostly "virtual" sea creatures swam in the air next to them the full length of the catwalk as they exhibited the collection.

Pepper's ghost is also used by Disney's Imagineers to enhance the immersive experience of their Disneyland Haunted Mansion and Twilight Zone: Tower of Terror theme park rides. For these rides, Pepper's ghost fits perfectly as part of the whole uncanny narrative experience that these themed rides provide. In the Haunted Mansion spectators are taken through a ballroom populated by ghostly dancing figures who appear to be re-enacting their last party spiralling through the furniture of the room.\textsuperscript{252} Pepper's ghost here is used across the full length of the room a distance of approximately ten metres (though it is hard to gauge accurately), the glass is angled sloping backwards from the front lower side to the upper back edge. Behind the glass is a ballroom with tables, chairs and other furnishings befitting a haunted mansion. The effect viewed by the spectators passing in their carriages lasts for about twenty seconds before the room is passed completely by; the ghostly

\textsuperscript{251} Dimensional Studios 22 November 2009.
dancers do not shift in position upwards or downwards because the glass is angled so that the vertical axis of the images reflected upon it does not alter, the dancers therefore do not sink through the floor or hover through the air. They do however shift across the ballroom in the opposite direction of travel, but this is effectively countered in a number of ways: firstly the direction of travel and the masking of the "Doom Buggy" being travelled in stops the images just passed from being viewed for too long. Secondly, Disney's Imagineers are skilled at drawing the attention of their spectators to other things, a skill well honed by years of theme ride design and by their experiences of creating other themed rides. No sooner than one ghost has been seen in the ballroom, another is seen doing something more interesting. In the ballroom therefore groups of ghosts can be seen appearing and disappearing in this order as the carriage travels: sitting round a table, two couples dancing in twirls, a single figure accompanying them on an organ. Finally, the problems of the effect itself are used efficiently: the spectator has a restricted angle of view, as the angle of incidence of the reflection changes, the dancers simply seem to dance across the room and through the furniture. The quirk of the effect caused by the restricted angle of views is used to enhance the affect of the ghosts, what should be the revealing mistake of a reflected image becomes something ghostly in itself.

In the Twilight Zone ride, the effect is used much more conventionally: the audience seated in rows on a very slight rake are end-on to the set of doors that they came through. The pretext of the ride is that they are seated in the goods lift, when the lift moves it rises into position, the doors open upon a corridor of the haunted hotel. The pane of transparent material (whether it is glass or some other semi-
transparent material is unclear) cuts at an angle across the viewed area at 45 degrees. The spectators are allowed to see down the old hotel corridor towards the haunted lift, when out of thin air, the doomed passengers of the story-line materialize seemingly in as ghosts in the middle of the corridor. Having now entered the Twilight Zone, the lift shoots up away from the corridor and begins the "thrill" section of the ride. Pepper's ghost is used only briefly and fairly conventionally as an effect to set the scene, unlike in the *Haunted Mansion* ride where it is used as part of the ride's atmosphere. In both instances the duration of the effect used is less than a minute long, before something more exciting is revealed or something physically spectacular happens; and in both instances, it is used to produce the effect of ghosts.

In both the case of the Diesel show and the Cisco System's Eye-liner (perhaps itself a reference to the historical limitations of the device) Pepper's Ghost has become something used for specific spectacular and performative purposes and in one hundred and fifty or so years we have seen the stagnation and re-emergence of this technology. In Disneyland we see Pepper's ghost still being used as a ghost effect as part of an immersive performative spectacular experience, there is very little difference to how this effect was being used historically, it remains the set-piece spectacle that Pepper made famous, but enhanced by a host of other computer, automotive and projection technologies. Where it differs from the original use is in its performativity: Pepper's narration and the dumb-show limited the device and restricted it to a performance effect locked within the *locus*; in the Haunted Mansion there is no such strict delineation of spaces. The ride moves the spectator through an amorphous area that is not a dramatic *locus* but through something more akin to a *platea*, although it is not really this at all either. The carriage is the space of the spectator and consequently the space closest to that of a theatre's *platea*; it shifts with
the spectators through areas where loci are presented. Calling the carriage a "doom Buggy" allows a certain amount of bleed from the locus into the platea, it makes it part of the "Mansion" experience, but really the ride's carriage-based trajectory forces the mise-en-scène of the "Mansion" to never be separable from the external world the spectator has left. The Pepper's ghost illusion therefore creates its uncanny effects within our world and our homely space; with no "live" actors to speak of, it also succeeds in producing uncanny and performative ghosts at the same time.

The Model Expanded

Pepper's ghost diversified to be used in theatres outside of the Royal Polytechnic, it was used by Svoboda as a psycho-plastic device, and then it was reinvigorated into specificity again with the Cisco system and the fashion show exhibitions. To take this re-invigorated version of the technology back into the theatre for use as a stage effect, would be a further diversification making that technology part of the psycho-plastic theatre scene once more.

When a technology diversifies and becomes less specific in its use, usually through practical necessity it becomes more psycho-plastic, when a service technology is re-invigorated by fresh use after a period of stagnation it becomes more specific. This is not to say that this is a solid and firm process but one that is constantly shifting, it is also not an isolated thing, as technology in the public and scientific sectors grow, interpolations enter the cycle and allow the system to grow

254 It is arguable, however, that it is only part of the immersive and holistic design of Disneyland itself.
larger and more diverse. An interpolation in this context refers to a new piece of technology interrupting and contributing to the growing cycle of a technology's "life". The interpolation in the case of the 3D Conferencing system comes from high definition technologies and video projections, the internet is also involved as is streaming software, bit rate and broadband technologies. These things have entered into the process of reinvigoration and diversification in the specific/psycho-plastic dialogue of the Pepper's ghost illusion.

It is difficult to say exactly what led to the invention of Cisco System's 3D Conferencing when the optical effect has so many technological precedents involved with it; and it would be deterministic of us to assume that just one of them, or even Pepper's ghost alone, led to that effect. Maybe the advancement of High Definition video technologies are being reinvigorated here, or maybe the recent rise of Web-based technology could be the technologies that should be held responsible as it were. I think it would be more accurate to say that technology led to the development of the illusion, because theatre technology cannot be read as a linear process, but as thousands of different smaller cyclical processes at different stages within the specific/psycho-plastic dialogue all interconnected at multiple points. The story of a device can be told in a way similar to studying a history: you can pull out threads and strands of the technology from other technologies to tell the story of the device in question. That story is then as accurate or as questionable as the evidence from which it is evinced from. If we break down the particulars of the original Dircks and Pepper patent you will see what I mean. The illusion depends on three major things: firstly a source of bright light to illuminate the actor playing the ghost. Drummond's
limelight had been around for a long while as had arc light, but Pepper was also known as a magic-laternist who understood that a light source alone is not enough, and carefully focussed lantern optics would have to be used to direct the light and give it sufficient intensity. Secondly, the place that the ghost must stand, the dessous of the stage, should have sufficient depth in order to mask the performer and the light source from the audience. Finally, the technology needed to make a very large single sheet of glass to cover a sufficient portion of the stage to make the illusion appear seamless had only been possible since 1845 when the British government finally removed excise duties on the manufacture of large pieces of glass, used to great advantage in the construction of the Crystal Palace a few years later. So it can be seen that no one thing can lead to the development of this device, several different technologies from several different areas of theatre and external industry all touched together to make the original patenting possible, and that is before you get into the social history of the two men involved: Dircks and Pepper.

Technology and Hyper-texts

Pepper's ghost here forms a very good example of the process of change that a simple theatre technology undergoes; the cycle is at no point complete or finished so to chart its existence in the manner of a seriation chart, as Katherine Hayles suggested doing earlier in this chapter, may empirically produce important historical information, but aesthetically tells us nothing. Examining the technology in terms of

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255 Williams 21st Nov. 2009.
256 The Royal Polytechnic is now home to the University of Westminster and as mentioned in the previous chapter, the main lecture hall is no longer capable of staging the Pepper's ghost illusion because they refurbished the hall and removed the wood stage system during the last century
psycho-plasticity and specificity under the influence of processes like re-invigoration and diversification allows a much larger cycle to be charted without plotting empirical or chronological limitations onto the examination. There may be times in this model when the technology passes entirely from the sphere of theatrical use, but the fact that it has been used for a theatrical purpose holds the promise of its influence on other theatrical devices and upon scenographical thinking. Technology is a powerful tool and one which is constantly evolving, this model helps us to map this evolution without being caught up in a wholly historical argument, this model instead resists historicism by its very scale, as well as embracing it through its familiarity and adaptability into a historical narrative. The development and the reinvigoration and interpolation of the stage technologies over time, makes this model similar in concept to a hyper-text, a phrase from computing coined by Theodor Nelson in the 1960s and made famous by George Landow in the 1990s: a 'hypertext' is a 'text composed of blocks of words . . . linked electronically by multiple paths, chains, or trails in an open-ended, perpetually unfinished textuality. The hypertext is familiar to any internet user; it is a text where the key words are hyperlinked to other articles, themselves full of hyperlinked key-words. The potential hypertext is one of infinite scale containing multiple narratives all interconnected in a continuous loop.

Like the hypertext, theatre technology is composed of blocks of practical usage: stage devices, lighting, sound effects, architecture, etc. There is no one linear strand from which to pull out an entire history of one device, each technology is inextricably bound in some way to another. The technological development of

theatre is a thickly woven web, and one which is firmly attached to external technological development, it is like a celtic knot where the edge is just as fascinating as the centre.

Hyper-text, Hyper-tech

In Nelson's and Landow's hypertext a reader will read a section of text and be presented with several key words hyper-linked to other relevant blocks of text or hyper-linked to specific media to which the original refers. In the same way we can use the theatre hyper-tech model to see patterns within the tangle, ouroboric patterns which self-consume and remerge affecting all the patterns around them. After a while the patterns which could be identified as one separate thing at once seem to re-emerge slightly differently reinvigorated or diversified, like the example of the Pepper's ghost illusion I have outlined.

Landow also uses Roland Barthes' lexia as a model for how hypertext works, likening it to the small strings of words and phrases which make up parts of language. This meshes with the implications of the effect of the Corsican trap having textual qualities in the previous chapter. Barthes' lexia are 'the best possible space[s] in which we can observe meanings' within texts, their connotations adding weight to the meaning of the overall text, his model forms a polyhedral shape with other lexia and smaller texts arranged 'like a berm... of possible meanings under the flux of discourse.' The Corsican trap examined in a textual way contains

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259 Barthes 13.
260 Barthes 14.
its own signifiers and connotations which effect how the whole play of *The Corsican Brothers* as performance can be read. Its importance as a specific piece of theatre technology directly affected the popularity of the play in the nineteenth century due to the aesthetic textual connotations it provided.

The psycho-plastic/specific relationship and its myriad parts can be related to each technology individually over time, but each technology is at a different stage in its development and touches upon very many other technologies. As lexia, they are not fully complete texts, the technologies are small pieces of theatrical performance that make up the greater theatrical texts, some technologies are too specific in their connotations and could not easily be removed or changed around, their meaning is too rigid, and others form the very basis of theatre expression and are used in every manner, and like lexia, they can be re-written and reformed, added to and subtracted from.

Each theatre technology has a unique position in history, but each technology is not isolated from everything else. Every technology touched is pulled into the system of this model and becomes at once part of the model and a separate entity existing within its own cycle with its own interpolations, diversifications and re-invigorations. Each theatre technology is at a different point within its own cycle and touches different points of other cycles. The Corsican trap seems to be a technology that has fallen from use, it still seems to be a specific piece of technology from the view-point of a modern theatre audience, it is only used to produce a ghost on stage. However, its cycle may not have begun with that first performance in 1852, the cycle itself might be much larger in chronological terms and much more influential in terms of technology of the theatre.
The Greek Progenitor of the Glide Trap

In Jullius Pollux's *Onomasticon* there is reference to a piece of Greek Theatre technology that has been largely ignored by scholars. I have only found two references to the device the first in the 1775 translation of Pollux and the second in the commentary of the *Orestia of Aeschlysus*\(^{261}\) from 1900. Pollux describes this little known device as 'Charon's ladders, situated at the Avenues of the Benches, are for the Conveyance of Ghosts. The Pullies partly in the Scene for the lifting up River or any such appearance; and partly round the Stairs by which the Furies were raised \(\textit{sic}\).\(^{262}\) This vague description, drawn and adapted from a second century thesaurus or glossary of Attic terms, would seem to describe a Greek stage device for use in the representation of a ghost. Not just a specific theatre device depicting ghosts, but a mechanical device with pulleys and ropes with a psycho-plastic use: it was also used to depict sailing on the river Styx and for presenting the arrival of Furies. George C. W. War's commentary on the *Orestia of Aeschlysus* mentions that 'such a contrivance was indispensible for personages supposed to emerge from the lower world'.\(^{263}\) So over sixteen hundred years before Alexandre Dumas wrote *Les Frères Corses* there are accounts of a device for the presentation of undead things in performance; but it is not specifically for bringing a ghost onto stage, rather it can bring anything of the ilk from the underworld onto stage whether it is a ghost or a god, it does not just represent the effect of the ghost, but it represents anything from the underworld. This is a psycho-plastic precursor to the Corsican

\(^{261}\) George C. W. War, 'Commentary', *Orestia of Aeschlysus*, trans. George C. W. War, (London: George Allen and Sons 1900)  
\(^{262}\) Pollux 12-13.  
\(^{263}\) War 195
trap's cycle of re- invigoration and diversification is simply much slower than that of Pepper's ghost if we allow ourselves a determinist reading. If however we accept that it is also part of countless other technology cycles, we can see its influence in all under-stage machinery used to produce actors from the dessous onto the stage. It also makes sense that despite the popular misconception that deus ex machina only refers to gods flown in from above, it actually refers to all Greek stage devices.\textsuperscript{264}

\section*{An Ouroboric Model}

The specific/psycho-plastic model for theatre technology that I have been trying to postulate is not a rigid thing but an adaptable basis for an aesthetic language. It is the multiplicity and perpetuality of individual technologies forming parts of performance that makes this model of theatre technology not just fluid and cyclical but ouroboric -- a self consuming cycle that has no end and no beginning.\textsuperscript{265}

The snake of the ouroboros eats its own tail and grows with each revolution just as my model of theatre technology does. Each technology that interpolates


\textsuperscript{265} This is not like Baudrillard's post-modern simulacrum, (Jean Baudrillard, \textit{Selected Writings}, ed. Mark Poster. 2nd ed. (Stanford, Cal: Stanford University Press, 2001) 169-187) it is not a copy without an original and therefore can be described as a-historical for that reason; it is ouroboric, complete within itself and original each time the cycle turns. Its history has little or no large over- arching influence or narrative save for the one that the historian presses upon it through their narrative choices. It would be easy to think that with such a repetitious model formulated upon the idea of cycles over time, the specific/psycho-plastic model for theatre technology relies upon the historical negation of post-modern simulacra to remain separate from, but also within, historical contexts. The idea that theatre technologies can be "read" as lexia does not necessarily mean that they also act as 'minaturized units... and can be reproduced an indefinite number times'.(Baudrillard 170) I think that my model depends upon grounding theatre technologies in as many contexts as can be brought to bear and this is what keeps the model real and prevents it from becoming hyperreal: 'the product of an irradiating synthesis of combinatory models in a hyperspace without atmosphere'.(Baudrillard 170) The specific/psycho-plastic, depends on finding an atmosphere throughout its combinations, a context that is grounded in textuality and performance that has a clear historical pattern in its combinatory patterns.
another is added to that cycle through the process of re-invigoration, and when that technology itself diversifies it feeds new technologies elsewhere in the hyper-tech model. Theatre technology is an ever-growing thing, but this model of understanding it, helps to break down elements and brings order to the chaos.

History only forms part of the model's atmosphere of context, but it is an important one none-the-less. It would be absurd to think that this model is in its finality ahistorical, anything that is in the past is history and if patterns can be seen then historical narratives can be written. What this model does though, is resist a traditional determinist historicization and highlight the inextricability of technologies from other technologies. Brighter lighting may have been mooted to have caused the crisis in representation but limelight alone cannot be blamed, and an entire historical argument hung upon that one technology. The resistance to history of this model allows for the hyper-tech to not only invite the input of other technologies into its cycle but also those technologies' performative and aesthetic meanings. The model may assist in the writing of larger scenographic histories, or even in a history that is exclusively its own, but it also demands that meaning and purpose be discovered within it. It demands an aesthetical analysis as well as the archeo-historical reading normally given to theatre technology, an analysis which examines the technologies as separate but interrelated textures in performance and theatre.

Technology and Semiotics

With a drive towards the development of an aesthetic language through the use of this ouroboric model, it would seem at this juncture that this thesis appeals to a
semiotic analysis of the subjects involved because it is championing a textual analysis of theatre technology. Such a search for signs in the performance of theatre technology would certainly render it 'de-sublimated', removed from obscurity and exposed to scrutiny, but a semiotic analysis would create a very different study and one that does not necessarily allow scope for a variety of aesthetic approaches. This thesis is merely meant to sign-post the discussion and resist the assumption that Susan Melrose makes that theatre technology is merely a human invention and therefore 'logically stabilised' and not the element of 'something else' which makes theatre successful. Melrose's semiotic study focuses upon the performance of what is 'really' happening in the theatre space and not things that are 'illusionistic, or technology-dependent'. A consequence of this is that theatre technology is only capable of supporting the action or of supporting the representation of the dramatic work which is 'something else' entirely. This is not an unusual way of thinking about technology and it may be understandable that Melrose believes information technology has failed to tackle 'the subject of live theatre' because in its logical stability, it lacks the cohesiveness of a codified order. In particular Melrose implies that the interactions of modern technologies with different modes of theatre enhance the illusionistic properties of representation. Perhaps this is because modern technologies such as the equipment need to make multi-media performances which appear visibly on the stage as part of the mise-en-scène are not just technologies of representation but are in fact presentational media contained within a representational frame.

268 Melrose 31.
So maybe semiology has some possible answers to the implications of this thesis, once a language is formed it would be interesting to see how it compares with languages of other art forms. For now it is prudent to solidify the theories postulated and continue to remain within the realms of textual analysis where the 'devil' as Pavis says 'is in the detail' where an 'apparently innocuous fragment' of performance turns out 'to be characteristic of the whole, and one must know how to recognise these "insignificant" details that regularly nestle in some of the material elements privileged in the performance.'\cite{Pavis172} In particular, technology as a textual thing, as mooted in the previous chapter, is 'within' a performance and not 'above or beside it'\cite{Pavis199} like the "traditional" idea of an authored dramatic text which is the root of the dramatic action. Technology is not above or beside and it is not the whole text of the performance which includes all the elements of gesture and enunciation which an actor provides to an audience. I would argue that technology acts like a fragment of text, one which forms part of the representation within the mise-en-scène of a theatrical action, but its position as such is in jeopardy because of the attitudes familiar from Melrose, that the "recent" medias of presentation clash with the "old" modes of representation.

This chapter has established a model for theatre technology which affords access to a set of terms and processes that can be used to interpret the meaning of technological devices used in theatre and performance. Using this model we can isolate, contextualise, explore and interpret theatre technologies as we would a dramatic text or staged performance. The thesis has identified processes which

\begin{footnotes}
\item \cite{Pavis172} Pavis 172.
\item \cite{Pavis199} Pavis 199.
\end{footnotes}
diversify and re-invigorate theatre technologies that are specific and psycho-plastic. It has been shown that those processes and definitions are fluid and shifting depending on what context the technologies are studied in. As a basis for an aesthetic language this model is important because it shows that theatre technologies are far more complex than technologies that simply serve or amaze an audience; theatre technologies are used for specific or psycho-plastic purposes, and those purposes are diverse and unique aesthetic elements of performance. If we try to "read" technologies, as the Corsican Trap and Pepper's ghost were "read" in Chapter One, then the model that is postulated in this chapter is invaluable in showing how the meanings of theatre technologies can change, alter and influence each other. Depending on how they are used and which other technologies interpolate or are interpolated by them, theatre technologies can begin to be examined aesthetically.

Most modern theatre theories which acknowledge or examine aspects of the technological are often bound up with modern media theories. The next chapter will problematise this model further in light of the modern theatre, a theatre increasingly aware of issues of liveness and intermediality. It will ask whether a theory that was formulated by examples of the past can have any relevance to the aesthetics of modern theatre technology.
CHAPTER THREE: Theatre Technology: Text or Medium?

The aim of this chapter is to interrogate the hyper-tech model developed in the previous chapter with reference to modern technologies and to modern theatre theory. In particular media theory, which, though on the face of it, would seem to support the study's model and theories, actually disassembles them.

To build the specific/psycho-plastic model and the pertaining critical language surrounding it, this study has had to treat theatre technology like a textual concept. In Chapter One an analysis was applied to the Corsican Trap and to Pepper's Ghost which treated them as individual devices and analysed their meanings as if they were segments of written text in order to postulate relationships.

Chapter Two established a working model to show how technologies change in their use and context, and to show how they interpolate other technologies. Through the processes described in the model, the technologies influence and in turn are influenced by other technologies. As they merge and diverge, so too do their meanings. To a certain extent this works well, it has been shown that devices can be considered performative and intricate in their roles in theatre, that they fulfil a function beyond the effective and that their affect may be considered in a textual manner. Stage devices can be “read” on stage and as they form part of a large technological system that functions over time, they could be considered hypertextual in nature or more akin to Barthes' lexia: discrete packages of writerly, transitory text, which can be linked together in multiple ways with multiple access points for understanding to form a polyhedral shape. As long as text is analogous to technology on stage the model can hold up to a certain amount of scrutiny, and resist
the semiological shortcuts inherent in treating technology as 'logically stable', even within a historical context; as has been said, it is too easy to shift perspectives of the past to suit a modern position comfortably.

**History and media theory**

Amy Petersen Jensen strives to 'identify the imprints of mediatization in all theatrical works' [sic] which have been changed irrevocably by our mediatised culture. She writes: 'because of mass media's effect on the collective perceptions of contemporary theatre audiences, influencing both the production and reception of theatre, academics must recognize its operation in theory and practice.[sic]' It is inevitable, therefore, that the model postulated must be interrogated under the lights of contemporary theatre technology and media culture theory as well as having a historical mode if it is to be successful in producing the basis for an aesthetic language of theatre technology. So far it has been shown that the technology does not succumb to history, fall out of use entirely or become obsolete, but instead it *reinvigorates* or *diversifies* as it meets *interpolating* technologies. As these processes work over time, the aesthetic meaning of the theatre technologies will warp and shift, their textual meanings will change. The aesthetic language that I am working towards must therefore be resilient when placed alongside contemporary theories. This chapter will deal with the three processes of the ouroboric model in

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271 As suggested at the end of the previous chapter, accepting the 'logical stability' of technical elements within performance easily codifies them, but it does not allow for the technology to have that sense of 'something else' which makes them a part of successful work. Melrose 31.
273 Jensen 4.
more detail and investigate how they compliment and antagonise the rigours of "new" theatre technologies and the popular critical position of media analysis; a position which by its nature negates most of the arguments made so far, or at the very least makes demands that position them in such a way that they appear to have a superficial binary relationship.\footnote{Through problematising the model, this chapter approaches areas where theatre technology can be discussed aesthetically. These sections are indicated by a shift in objectivity reflected in the use of the personal pronoun and of experiential knowledge key to formulating the arguments within this thesis. These are not intended as a conversational gambits, but as aesthetic rhetoric.}

**Intermedial Theatre Practice and Multi-media Theatre**

I find it interesting that the idea of multi-media theatre, a term I have always used for theatre that incorporates different artistic media as well as live performance, has been usurped as a term and as a practice by the concept of theatre with an 'intermedial turn'\footnote{Robin Nelson, 'Prospective mapping'. *Mapping Intermediality in Performance*, Sarah Bay-Cheng et al. eds., (Amsterdam: Amsterdam University Press, 2010) 13-24.} and for many reasons I agree with its exile. The term multi-media has become problematic and though the idea of the intermedial is a relatively new one it will be a while before multi-media is fully, if ever, shrugged off. It is probably too reductive to provide an exacting dictionary definition here that will do anything but clarify its usage, because part of its problem is its multiplicity, both in terms of taxonomy and in its activity. Nevertheless a definition is needed.

Klaus Bruhn Jensen writes this entry for "intermedial" in the *International Encyclopedia of Communications*:

First, and most concretely, intermediality is the combination and adaptation of separate material vehicles of representation and reproduction, sometimes called multimedia, as exemplified by sound-and-slide shows or by the audio and video channels of television.
Second, the term denotes communication through several sensory modalities at once, for instance, music and moving images. Third, intermediality concerns the interrelations between media as institutions in society, as addressed in technological and economic terms such as convergence and conglomerate.\textsuperscript{276}

Robin Nelson, whose work with the Intermediality in Theatre and Performance research group for the International Federation for Theatre Research (IFTR) utilises this definition and further elaborates on its relevance to their research:

On level one, it is concerned, for example, with how a live actor speaking in a performance space, which also projects a live feed image of her on to an on-stage screen (a projection screen or television monitor) engages two means of representation and reproduction, which require negotiations by both the actors and the spectators. On level two, it is concerned with the complexities of work of such practitioners as Robert Lepage ([…]) which may utilise multi-screen video projection (both prerecorded and live feed), a strong sound score, dynamic machinery that re-configures stage space and various other technological devices as well as live performers, affording a rich and complex sense experience.\textsuperscript{277}

Defining multi-mediality or intermediality is not the purpose of this study, but a definition is needed as identifying what I am not talking about will help to restrict the breadth of the discussion. Klaus Bruhn Jensen's definition is useful in pulling together the divergence of the terms, suggesting that multi-media has been subsumed by the economic pressures of digital culture which have radically altered the accessibility of such technologies. The work of the Intermediality in Theatre and Performance research group, of which Nelson is part, has located Jensen's definitions inside contemporary theatre practice.

As a theory of transmediality, intermediality in theatre and performance seems to be a much more useful term than the old one: contemporary to this study,

\textsuperscript{276} Cited in Nelson 16; and Wolfgang Donsbach, ed. The International Encyclopaedia of Communication (Oxford: Blackwell Publishing 2009)

\textsuperscript{277} Nelson 16.
multi-media has been adopted by the personal entertainment and computing industry. Multi-media implies an ability to present more than one visual and/or auditory media within the same confining technological package: the most recent example at the time of writing is the Apple Macintosh iPad, a large tablet-style, touch screen, net-based computing system with high-design cosmetic features and the ability to stream video and music from the internet as well as download games, applications (or "apps" as they are known) and on-demand movies in high definition. The iPad is the latest in a long line of increasingly "desirable" multimedia devices available from Apple and its competitors. In my professional experience before ubiquitous modern computing, multi-media was always a term that seemed to be used as a synonym for "video-projection" in performance. The unimaginative stereotype was of a dramatic performance acted out in front of a simultaneous screening of a dramatic film, both of these media would vie for the greater attention, juxtaposing, undercutting and confusing an audience often posing a tacit question: does one watch the play or the film? Multi-media performance was, for me at any rate, intensely irritating and difficult to watch without wishing for simplification; this was not an objection to the overt use of technology encroaching upon a theatrical space, this was a desire to watch either one medium in isolation or the other, because to me they both meant different things, they were both bound up in very different methodologies and languages, and what could be used to discuss the one medium, couldn't be used to discuss the rival. And rivalry between multi-media is a real thing: In watching a film I am looking for a visually oriented narrative, the framing of one sequence of moving images, juxtaposed, contrasted and compared with another in order to tell a story or simply to be a beautiful collection of images. I want to explore the depth of field in a film, discover characters and experience their point of view and I want to experience
the verisimilitude of the image captured. In theatre I want to feel the poetry of the performer's movement and hear the song in their voice; I want the psychological expression of feelings to be internalised or externalised in a myriad different ways so that I might better understand them and I want it to be unique every time they do. Technology, according to Klemens Gruber, rendered the arts semiotically fundamental, 'able to isolate each sensory perception purely in itself'\textsuperscript{278} separated into exclusive forms by the creation of their individual media: telegraphy for writing, telephones for voices, photography for vision, gramophone for sounds. Gruber argues that this separation was reinforced by international avant-garde promoting an awareness of the boundaries despite the naturally strong links between these separated senses.\textsuperscript{279} These media have therefore "grown up" separately attracting their own semiotics and phenomenological meanings. Modern media are therefore intersensory and semiotically very different, so technically what makes for good video projection, or for good audio, does not make for good dance or for good performance or for good theatre. This creates a problem with modern representation and one which further compounds the crisis of representation and its relationship with the crisis of drama which was highlighted at the very beginning of this work. Semiotically, as Patrice Pavis says, '[c]riticism of the sign leads to criticism of representation'\textsuperscript{280} and if sign is technologically dependent then, arguably it is not "real" and is instead illusionary.\textsuperscript{281} This may be all very well for theatre as a host for other media, as a 'hyper-medium which "stages" other mediums',\textsuperscript{282} if the media

\textsuperscript{279} Although Gruber takes pains to point out that this was not a destruction of senses, but rather a celebration of media technologies and the aesthetic they produce.
\textsuperscript{280} Pavis 312.
\textsuperscript{281} Melrose 69.
\textsuperscript{282} Nelson 16.
staged are representational, however, some of the technologies staged are not: the live feed, web-streaming technologies, theatre performance in virtual on-line spaces etc, are presentational technologies and are not subject to the same semiological or textual gravities when 'the aesthetic of representation, which requires a community of themes or interests, gives way to an aesthetic of reception and of individual perception.'

Placing representational theatre and presentational media together then, causes a tension in attention. Each medium has their optimum requirements of space and environment for viewing and multi-media performance did not seem to fulfil any adequately: a space bright enough for acting is too bright for projection, it washes out the screen image; and what makes a space acoustically interesting when empty is often ruined by the different acoustic of set and audience and by the sound of the audience members murmuring, actors talking and projector fans whirring.

Peter Boenisch writes of the early days of cinema and in its competition with theatre, 'there was an inexorable drive to set various media in opposition to each other, and to define them in contrast to each other, as if they presided over their own distinctly defined aesthetic realms'. On the occasions where the media were gathered in one place and presented together, I would argue that as long as they were beneath the banner "multi-media" they remained in opposition as antagonistic art forms.

So it is with some delight that I can leap on the term "intermedial", not because it is something new, but because it better describes what is going on: "multi-media" implies an equal billing, one medium set up against the other each with their

283 Pavis 312.
own 'distinctly defined aesthetic realms'; intermedial performance takes place in the spaces between the media, in the gaps where they fit, or don't fit as the case may be. It takes place in the aesthetic meeting points of each medium as they try to tessellate together; it is not, or at least it is not intended to be an oppositional thing but one of synergistic medial art, it is a place where different media and their codes and signifiers contribute to each other and become mediated in a new form. Even the host medium theatre is attenuated to match the other media, 'indeed theatre plays a relatively minor part. . ., apart from being seen as the traditionally accepted holder of the concept of live performance'. The temptation is to think that multi-media, with its shiny new name has allowed technology to suppress the theatrical element, but as Freda Chapple and Chiel Kattenbelt also point out, intermedial theatre 'actually operates, at times, without any technology being present. Intermediality is about changes in theatre practice and thus about changing perceptions of performance, which become visible through the process of staging.' But this isn't a shiny new name for multi-media performance, it is an aesthetic re-negotiation of the very basis of the discussion albeit one which begins with semantics and is a taxonomic one. Multi-media is based on a foundation made of conflict, one medium pitched against the other to conflict and divide an audience though aesthetics; intermedial is based on a foundation of mutual understanding balancing the aesthetics of the media. I find with the term intermedial, I can look back at some of the performances that I witnessed and realise that I didn't find them satisfying because they did not do what a multi-media computer does: everything equally well. This re-negotiates my aesthetic

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285 Boenisch 105.
287 Chapple, and Kattenbelt 12.
point of view, I can look back at the performances I witnessed and realise that while I think they failed as multi-media performances they actually did a lot of very interesting intermedial things.

This is a rather pedantic semantic view and as much as I like this new term and the balance it brings to aesthetics in contemporary theatre criticism it does raise an issue for my critical study of theatre technology. Is theatre technology a medium and not a text?

**Mediality/Textuality**

Marshal McLuhan, in the 1960s, wrote famously that 'the medium is the message', he also defined the 'basic function of media - to store and to expedite information. Plainly to store is to expedite, since what is stored is also more accessible than what has to be gathered.' The defining quality of media being able to store and expedite knowledge makes it similar to a written text, or at least it makes it similar to the physical act of writing a text. The last two chapters of this study has spent time trying to show that theatre technology can be "read" in the same way that an actor's performance can be "read", that their performances can have attributed to them a set of critical qualities which bear a similarity to a passage of written text. A form of critical study analogous to a textual analysis can then be levied upon theatre technology.

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289 McLuhan 158.
So far a medium and a text appear to have the same basic function, the storage and dissemination of information, it would be easy for me to treat them as interchangeable and skate over the media based issues which weaken my argument: we should accept, as Peter M. Boenisch says, that media 'essentially shape what can be thought and stated at all times' and instead of resisting, happily embrace the media theory of Jay David Bolter and Richard Grusin who attest that a 'medium is that which remediates', that all media can be mediated and then mediated again, that technology is a media and is also remediated. The arguments in this thesis could accept that because 'the medium is the message,' that technology is just a medium, that it is only when other media are appended to it that its message grows because its message is their message too and in its submersion lies the answer to its queries: theatre technology has no language of its own because it is simply part of the medium of theatre. It is not going to.

**Video in Performance**

This study will focus for a while on the technology of video in particular, its importance to performance art being neatly summed up by Johannes Birringer when he says that art produced by video technology is not "medium-specific" but always and inevitably interdisciplinary, a production mode that interfaces with all image and sound media. . . while gradually being assimilated into the widest range of institutional and domestic practices, and ultimately into the constructions of our

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290 Boenish 105.
292 Or (re)mediated.
memory history.

Birringer's views support the idea of the ambivalences of multimedia and reflect the advantages of the intermedial way of producing technologically dependent theatre and performance art. Though Birringer also says that the aesthetic history of the use of video 'cannot be adequately captured' or traced in performance, it is the belief of the author that the technology's material aesthetic history can. First however, we must reason why it should be in the first place.

Phillip Auslander in his work *Liveness* takes specific interest in a case study described by Peggy Phelan in her book *Unmarked: The politics of Performance*. Phelan describes and discusses a work of performance art by the artist Angelika Festa entitled *Untitled dance (with fish and others)*. Auslander, in his critique of this work makes reference to Phelan's observation of this technologically based performance and suggests that her conclusions are tautological. Festa's production makes use of a live camera feed focused upon her feet, the projection of that image and an opposing video monitor showing a looped tape of a fish swimming round. Auslander finds it interesting that Phelan 'does not specifically address the encroachment of technologies of reproduction on this piece. . . It is ironic that the video camera, perhaps the sine qua non of the pressures that Phelan sees as compromising the ontological integrity of the performance, is itself integral to the performance in question.

Phelan's original passage reads as follows:

> The spatial arrangement of the room - with Festa in the middle, the feet-screen behind her and to the left, the fish tape in front of her also on the left, and the time-elapsed mini-monitor directly in front of her and raised, forces the spectator constantly to look away from Festa's suspended body. In order to look at the projected feet, one has to look

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294 Birringer 145.
"beyond" Festa; in order to look at the fish embryo tape or the video monitor recording the performance itself, one has to turn one's back to her. That these projected images seem consumable while the centre image is, as it were, a "blind" image, suggests that it is only through the second-order of a re/presentation that we "see" anything. Festa's body... is averted from the spectator's ability to comprehend, to see and thus to seize.296

Phelan provides an accompanying production photograph:297 to the left of the frame is Festa, her face bound up with scarves and her body apparently suspended by some rig that is out of frame, she is mostly out of photograph's frame, her body obscuring the free-standing projection screen which Phelan described as the "feet-screen", there is a blurry close up of the feet on the screen. We must for the purposes of this argument in this case study ignore the presence of the human body in the space. This is a deliberate choice and not one of expedience. The body is not the focus of this work but the technology is.298 Also visible are the two objects that Auslander is clearly referring to when he describes the 'encroachment' of technologies: down frame centre and slightly out of focus is a large RGB projector299 and down frame right and the most in-focus element of the whole image, a JVC video camera mounted on a tripod. Auslander's technological interest in Phelan's case-study is also my interest: Auslander mentions the camera as being absent in Phelan's analysis, 'the sine qua non'300 of the encroachment -- he notices that she doesn't mention it, but he himself neglects to mention the projector.301 Present in this academic exchange is

297 Phelan 157
298 As stated in the introduction to this thesis and at several places since, the line of argument this study is taking steers its course past several very different areas. The presence of the body in this case study is privileged by the original commentators and is not the subject or focus of discussion here.
299 Bulky and tricky to use, an RGB projector has not one, but three cathode ray tubes: Red, Green and Blue. Each lamp has the same image projected through it, but the image has been shifted into each of those primary colours. Each picture from each of the lamps must be aligned precisely or the picture will be triplicated with three-coloured mis-aligned images.
300 Auslander 40.
301 He also neglects to mention the video screen with the image of the fish.
not two, but three levels of blindness: the aversion of the spectators described by Phelan, her omission of anything technological beyond the images viewed, and Auslander's conflation of the technological system used in the production. Each level of blindness indicates another tier of technological occlusion, whether these aversions are deliberate or conscious is interesting because it indicates a lacuna in their production-based critical thinking. The technological occlusion highlights the absence of an aesthetic technological language suitable for use in theatre criticism. If theatre technology was part of the accepted medium of theatre Phelan and Auslander would not have omitted, in whole or in part, any of the technology used in Phelan's case study. There would be no lacuna, technology would be a priori part of the ontological debate and maybe Auslander would not have had to move against Phelan's ontology to find a definition of liveness. Phelan's position is that 'performance in a strict ontological sense is non-reproductive' and that it 'implicates the real in the presence of bodies' which therefore allows it to be live and transitory. Auslander, however, believes that 'the live is actually an effect of mediatization,' that it is precisely because performance can be reproduced technologically that there is such a thing as 'live,' and this technological reproduction is what mediatises a performance: transforms it from a merely mediated form into something that is 'circulated on television, as audio or video recordings, and in other forms based on technologies of reproduction.' The elision of the camera and projector technologies by Auslander in his observation would seem to suggest that the final reproduction holds mediatised importance, and the process of

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302 Phelan 148.
303 Auslander 51.
304 The implication of this is picked up by Mathew Causey who in Theatre and Performance in Digital Culture points out the importance of death and disappearance.
305 Auslander 5.
reproduction can be conflated into a single reproductive medium: the live camera feed. It is this conflation of technologies and the treatment of them as a single medial and mediatising medium that jeopardises the model I have constructed in this thesis, because it positions the technological in theatre as a process of revealing something else; the theatre technology in intermedial theatre practice seems to be in service of the show, and its mediatised subject matter is the performative element.

**Heidegger and Theatre as Medium**

If theatre technology is treated as a medium, and therefore as a process of revealing something else, then technology as a medium fulfils the function of technē, and is a mode of alētheuein, the revealing of truth. For the purposes of this discussion, the "truth" is an artistic, material outcome, not an aesthetic absolute.

Heidegger writes in his *Question Concerning Technology* that 'technē is the name not only for the activities and skills of the craftsman, but also for the arts of the mind and the fine arts.' Heidegger describes technē as belonging to bringing forth as something poiētic, or creative, but that not all technē is technology and not all technology is poiētic; modern technology for example is considered by Heidegger to be a challenge to nature. With views that man-kind dominates over nature, Heidegger reveals his unpalatable politics; this argument is more concerned with the poiētic relationship of technē (the craft of the art) and alētheia (the artistic truth) with technology and performance in this discussion of theory. It is Heidegger's

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306 Heidegger 13.
307 It am not interested in Heidegger's politics, and a national socialist reading of modern technology is to be avoided, certainly by this study.
theory that several contemporary intermedial theatre theories are based on and their interpretation of Heidegger, or certainly the roles they cast technologies and performance within his theories, deeply colour contemporary thinking.

Mick Wallis in an editorial entitled 'Thinking through technē' points out that the common elision of technē and technology 'arguably threatens to shield the human activity of knowledge reproduction "properly" designated by technē from view.'

His argument focuses on a sonic metaphor to qualify Heidegger's example of the silversmith and his relationship to the chalice he is making suggesting that Heidegger focuses on the silversmith too tightly at the expense of the example:

Transparent pure signals flow between silversmith, material, form and purpose. But where does the silversmith live and work? Did any silversmith ever work under such conditions conducive to technē? Or have all silversmiths everywhere been the subjects of Enframing, which annihilates technē? How do we begin to mediate between this abstract, idealized and unhistorical figure and questions of truth, instrumentality and not just technology but also art in the historical world?

It could be argued that the idealising of the Heideggerean model extends throughout most modern intermedial thought and that the concept of theatre technology as technē is endemic to modern criticism: theatre technologies bring forth theatre in a silent relationship. Peggy Phelan avoids hearing or seeing the technological in Festa's work and Auslander points out her omission with an idealised technē in the conflated technological set up of her example.

Susan Kozel in her phenomenological study of the body in technologically saturated spaces, Closer; Performance, Technologies, Phenomenology, cannily identifies another popular misreading of Heidegger's theory and points out that other

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309 Wallis 4
things can be *technē* apart from technology stating that *technē* is the broad human activity of bringing things into being, while technologies are a modality, or a specific set of practices, within this wider domain.\(^{310}\) For Kozel, technology and the human body have to be interchangeable in performance, they reveal each other, their relationship has the 'dynamic, shifting ever changing quality of what makes us who we are,'\(^{311}\) and it is 'not out of the question for technologies to reveal aspects of embodiment.'\(^{312}\) For Kozel, technique can be *technē* instead of and as well as technology. Anything that helps reveal aspects of embodiment (choreography, improvisation etc.), are interchangeable with technology as *technē* within her performance space.

**Techno-cultural Relativism**

Mathew Causey's work *Theatre and Performance in Digital Culture* also allows for something other than technology to be *technē*. In the process of revealing techno-cultural phenomenon, Causey thinks that the work of The Wooster Group uses both technology and performance as *technē* confronting the 'ideological effects and cultural politics of mediatization by burying technology deep and immovably into the performance moment.'\(^{313}\) For Causey, theatre art is not the thing revealed it is simply the frame which holds the bio-politicised critique of digital culture: 'the tele-performative, which represents performance at a distance, presence at a distance,

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\(^{310}\) Susan Kozel *Closer; Performance, Technologies, Phenomenology* (Cambridge, Mass.: MIT 2007) 74,
\(^{311}\) Kozel 76.
\(^{312}\) Kozel 75.
\(^{313}\) Mathew Causey *Theatre and Performance in Digital Culture; from Simulation to Embeddedness* (London: Routledge 2006) 46.
a digitally malleable time and space.\textsuperscript{314} A performance art form developed specifically for a techno-cultural society.

It is important not to get caught up in a techno-culturally relativist loop with these differences as Amy Petersen Jensen does in her work \textit{Theatre in a Media Culture}. Jensen's investigation into how technology has affected the way American theatre is produced and "consumed" by American audiences is very interesting, but she does not go through the Heideggerean problematisation of what she assumes technology to be. This can be seen in particular in this passage:

The challenge continues to be to "make it real". The response to that challenge should be to recognize that the audience's vocabulary for reality has been expanded through intimate interaction and experience with technology. It must also be remembered that audiences are as likely to reject imitations of reality as they have ever been in history. Technology can truly aid the theatre in its quest "to make it real" by engaging audiences in a dialogue rooted to a cultural reality. Technology has the capacity to cue audiences to engage in personal performances of emotion. Technology can connect audiences to theatrical messages through their associative perceptions. More important, technology can be employed to invoke the necessary cultural signifiers to give theatrical works significance.\textsuperscript{[sic]}\textsuperscript{315}

Upon the first few readings this appears to correlate with this study's thinking, but Jensen's work is based solely in media theory and recent theatre history and though she touches upon the crisis in representation (the crisis that is foundational to this thesis) her responses are geared more towards the crisis in drama. This difference is due to her understanding of what "technology" means and it is not the same as this study's definition: it is not rooted to the physical materiality of the stage, Jensen's technology is culturally grounded and ubiquitous and it is synonymous with "media". We can even swap the words: media can 'truly aid the theatre in its quest "to make it

\textsuperscript{314} Causey 45.
\textsuperscript{315} Jensen 85.
real" by engaging audiences in a dialogue rooted to a cultural reality.' The allusion may be one of technological representation but the "reality" that she speaks of is a cultural media one. The new theatrical mode of expression to Jensen is the one created by the media-savvy society. The technology that Jensen speaks of then is not so much "technology" as it is the "technical" pertaining to the language of media technē because it is the technical that is visibly engaging with an audience in Jensen's survey of American theatre with a mediatised imprint. Besides, as Andy Lavender points out: 'I'm not sure that reality is the key currency here, but rather experience and, more particularly in theatre (for why else would we go?), the experience of a sort of pleasure at multi-texture. This is, after all, a theatre for an age of consumption.' The modern theatre is a theatre of representation containing presentational technologies for consumption by its techno-cultural audience.

**Visible and Invisible (an aside)**

Both Kozel and Causey allow room in their discussions for things other than technology to act as the craft of the art in the bringing forth of alētheia. Their acknowledgement that technology is not just technē echoes in the words of Daniel Watt's 'Oblivion', a Socratic exchange on the nature of technē, responding to a claim that technology always drives the change in theatre: 'No, technology changes the seen; techne [sic] transforms what appears.' This phrase is key to unlocking the idea of technology as a medium, it is in the tenses Watt uses that we find an opening

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316 Jensen 2.
to the next strand of the discussion: 'seen' a verb in the past-participle, and 'appears' an intransitive (object-less) verb in the present tense. Their differences distinguish between the visual and the revealing respectively, but 'seen' here is also used as a noun, it is the thing revealed. The linguistic differences also distinguish between product -- the seen -- and process -- what appears.

Technology that is seen is the finished product, static and unavoidable past and visible, defined in the sense that it is no longer invisible. Invisible is not to say, as Maurice Merleau-Ponty takes pains to point out, that it was not previously non-visible, but that it had actually been present but was not perceived. There is a danger here that the thesis will drift into a phenomenological string of arguments, but the idea of technologies visibility is an important one. Specific technologies are ones that are seen they are visible. Psycho-plastic technologies are ones that are invisible. In practice with reference to the examples used above: the video camera is a visible technology and is acknowledged as visible by Auslander; but the projector is invisible. Both, however, can be 'seen' and both 'appear' they are technē and alētheia.

Technology is in the position of a medium: a language or a tool to convey a concept, to store and expedite knowledge. The technē on the other hand, is a process an action that is both present and active, involved in revealing the artistic "truth". This forces us to postulate a question of visibility: if theatre technology can be the technē, so can other things, posing the question is theatre technology media when visible and something else when technē?

McLuhan, Barthes and Theatre as Text

Let us return to the definition of a medium provided by McLuhan who said that 'the medium is the message', he also said that an electric light is a medium:

The electric light is pure information. It is a medium without a message, as it were, unless it is used to spell out some verbal ad or name. This fact, characteristic of all media, means that the "content" of any medium is always another medium. . . For the "message" of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs.320

It therefore does not matter where the light is being used or what it is illuminating, because the light is the message, that which is illuminated merely adds content which 'blinds us to the character of the medium'321 and prevents us from seeing the message of the electric light because we only see the content of the surrounding and contributing media. In McLuhan's argument, every aspect of theatre technology is media whether it is technē or not. With this definition we can accept that as a medium the camera has indeed been ignored by Phelan, because she is blinded by the content of Festa's work. With this definition we can accept that Auslander conflates the video projector with the screen it projects upon because the content of the screen blinds him to the content of the projector. It is an all-conveying and all-pervasive argument which completely nullifies my study. Except that we can see that a medium is a thing of the past, it is a thing seen and complete containing itself and its message; McLuhan would have it that theatre technology can be a medium having its own message even if we are blinded by the content of other media. Theatre technology can also be a process, an active thing and therefore inherently an anti-medium.

320 McLuhan 8.
321 McLuhan 9.
McLuhan's definition of a medium is similar to Barthes' definition of the opposite of a writerly text, that which 'can be read, but not written: the readerly.' Barthes' readerly text is the literary one, the one you would find on the bookshelf in a library. It is the classic text, it is a product, a complete, self-contained and finished thing, just like a medium, able to store and when read expedite information. The writerly text, however is not a thing, it 'is a perpetual present, upon which no consequent language (which would inevitably make it past) can be superimposed. Barthes' writerly text is of the active present.

Of course a text can be a medium and a medium a text, but they are not as easily interchangeable as they seem, only certain types of text can be media and vice-versa: in Barthes' distinction a readerly text is a literary one, an established consumable artefact, one that is the product finished and processed that exists completed in the present. The writerly text is somewhat more elusive, it is a text that cannot ever exist in the present as it is always in the process of being "written" by the reader, it is actively being produced at the very moment of consumption. It is as if it were "live" in the reader's mind. Theatre technology is this type of text, it is writerly and the audience is like Barthes' reader: no longer the consumer but the producer of the writerly text. The writerly text is a psycho-plastic one, and it is a specific one at the same time. It can be read or imagined as anything, and it can be actively exactly what you have seen as it happens on stage. McLuhan's medium is a readerly text

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322 Barthes S/Z 4.
323 Barthes S/Z 5.
324 This has implications of its own within my model of theatre technology, it suggests that the specific and the psycho-plastic, are not just in the same continuum but occupy the same space within that continuum. This does not damage the model, it just reveals another aspect of its fluidic dynamic and reinforces the idea that at any given point in time, there are a hundred other technologies attached to each other, all at a different stage of change, all moving in a different direction, interpolating and being interpolated by each other.
what Barthes says 'can be read, but not written,' it has the message and the content of any other book or medium which is associated with it.

Re-mediation, Lexia, or Ouroboros?

McLuhan's electric light as a medium is a static message waiting for content from other media, in order to create a new mediated message. It is a collection of finished products that only make sense when placed alongside other finished products. Barthes' writerly texts exist as snippets or facets or lexia, linking together at multiple points to make an infinity of meanings as they are written/read/produced. The critical language this work has been trying to develop can be seen to behave as an ouroboric system in a similar manner to Barthes' lexia 'its units form a kind of polyhedron'\textsuperscript{325} which are multi-faceted, accessible and egressible at multiple points.

Within the system this study is developing are the processes of reinvigoration and diversification over time. These processes are parts of the same system, they represent the direction of change and not the type, they are also relational to other technological cycles, what is diversifying in one cycle, is reinvigorating in another. When they become bound up in the processes of other theatre technologies they are called them interpolations; reinvigoration and diversification are interpolative when they move outside of their own cycle and are interchangeable within their own cycle. These processes on the face of it seem similar to Bolter and Grusin's theory of remediation:

What remains strong in our culture today is the conviction that technology itself progresses through reform: that technology reforms

\textsuperscript{325} Barthes \textit{S/Z} 14.
itself. In our terms, new technologies of representation proceed by reforming or remediating earlier ones, while earlier technologies are struggling to maintain their legitimacy by remediating newer ones.\textsuperscript{326}

This forms the concept that media, to couch this in a McLuhan-like sense, exist in a self perpetuating manner, that their content does not come from us, the observer adding other media and seeing the larger content, but from the medium undergoing a constant process of mediation and drawing other content in. This mutual process of mediation acquires a sometimes parenthesised pre-fix to make it "(re)mediation", indicating its quality as a simulacrum and the media-user's critical need to attribute a point of origin at any plausibly possible moment in this self-perpetuating system. It is, of course, another media theory which is antithetical to this work.

Peter M. Boenisch is wary of remediation suggesting that 'even what seems like the most radical departure in media-technological development inevitably turns out to be another remediation rather than the ultimate perfect Über-medium.'\textsuperscript{327} When applied historically, Bolter and Grusin's theory seems whiggish or relativist at best. The idea of technology proceeding, or struggling to keep up is distressingly determinist, something that Boenisch also picks up on suggesting that remediation in his example, 'easily produces what looks like an evolution of ever more refined visual representation.'\textsuperscript{328} Bolter and Grusin's remediation identifies a process that is happening as well, that the technologies are inter-linked and feed into each other over time, this has been interpreted by Boenisch as possibly determinist, but it is also correct, they do interlock and feed into each other. The system outlined in this thesis is different in two ways: firstly this model is in flux, reinvigoration and diversification can take place independently and at the same time flowing in both

\textsuperscript{326} Bolter, and Grusin 61. 
\textsuperscript{327} Boenisch 108. 
\textsuperscript{328} Boenisch 108.
directions through the system, so that technologies can diversify and become more psycho-plastic as they inter-link with another technology, and they can re-invigorate over time or as other technologies join them. The inter-linking is the process termed *interpolation* because the inter-linking of two discrete systems cannot be inactive, they change the nature of each other irreversibly, they don't merely cling side by side separable and unaffected, after a while they interpolate: interrupt and add and change. Secondly, there is no progression, or struggle, there is only growth through self consumption. Remediation is a determinist theory. It can, exactly as Boenisch points out, produce what looks like an inevitable evolution, one that is entirely based on the comfortable knowledge that technology is a medium.

**Phelan and Auslander Re-visited**

With Bolter and Grusin's theory in mind, let us return to the technology of contention between Auslander and Phelan: the live camera feed, and assume that what is visible in Phelan's production photograph is what Festa used to produce her live feed. In the system we can see there is a performer, a video camera, a projector and a screen. We can also assume that because of the date the photograph was taken and the performance made (1987), that there were also adaptors and cables for both Alternating and Direct Current (AC and DC) for the power supplies and co-axial video cables for the video signals; we are also assuming the absence of a vision mixer or any other amplification/recording/mixing technologies run in-line between the camera and the projector; the electrically powered video camera is connected
directly to the video projector. What is present in Phelan's example is a live feed beginning (or ending) with the "live" feet of Angelika Festa, and ending (or beginning) with the mediatised image of Festa's feet on the projection screen. In this process, the technologies involved are medial, they mediate, they are not media. They act as technological surrogates for the audience and for the performer and become a conduit of mediatization, providing the contrast in which Auslander is interested in: the mediatised body and its result the live body, which is only live because it is mediatised. This is an example of technology in service, a psychoplastastic technology, for what is the difference between live performance and live mediatization but the one that we impose upon it? The mediatising technology here is the live camera feed and in order to establish what it has to do to mediatise in this circumstance, to criticise the technology, one must establish or search for its point of origin. Clearly this is in reality an impossible task: the search for an origin is an unending one, one that will always be overturned by new ways of looking at history, it might be said that remediation both implies and dismisses the idea of ever attempting such a thing, it being like a simulacra, a copy without origin. What might be more useful is to search for the pre-cursive least complex form of the technologies used. That is not to say the essence because as Heidegger points out 'technology is not equivalent to the essence of technology' in his process there is the implication that simplicity does not equate essence, and his theories seem to suggest that the essence is an unachievable aim of technology, but decreasing complexity is achievable, reminding us that 'a radar station is of course less simple than a weather

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329 The monitor with the image of the goldfish described in the example, does not appear in the photograph, so I will not examine this use of this technology in the discussion.

330 Heidegger 4.
The fore-grounding of the radar station in that statement implies a tacit contradiction against "more complex": as our technologies become less simple in mechanism, we desire them to be less complex in usage.

**What is Less Complex than Live Feed?**

In a simpler form the live feed is perhaps two devices: the *camera obscura* and the magic lantern. It is arguable whether these are the simplest forms of technologies, there are a host of technologies which form part of the live-feed's "pedigree" as it were: the lens, the microchip, manufactured plastic and electromagnetic power generation amongst hundreds of others could all be considered technologies involved in the processes of projecting a live video camera feed onto a screen. What is suitable for the purposes of a discussion in theatre technology is to find the simplest devices that perform comparatively similar functions, in the case of the live feed as a concept we can isolate the *camera obscura* alone as the device which performs the exact function of the live feed, the immediate "capture" and "presentation" of a live image. The magic lantern is an important part of the video projection technology and we will return to it later, for now though the magic lantern complicates the effect, something which we need to avoid when searching for the simplest form of the technology involved.

The Persian Cleric, Ibn al-Haythan (Alhazen), is credited as the inventor of the *camera obscura*, having been the first to accurately observe, record and describe how to recreate the effect. Proving that light travelled in straight lines, did not mix

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331 Heidegger 5.
and radiated in all directions at once, Ibn al-Haythan is generally considered to be the founding father of modern optics. He connected observations on the behaviour of light to patterns explicable through geometry, paving the way for, among other things, the principles of perspective found in Renaissance art. The optical principle governing the effect that the obscura produces had been known for some time, Aristotle being just one of the great thinkers to have observed the effect, but it was not until the end of the first millennium and al-Haythan's work Kitâb al-Manâzir (Book of Optics) that a device to reproduce the effect in a controllable way was created.

The effect is caused by the way light "behaves" when it passes through a small orifice in a thin surface. Because light travels in a straight-line, the light beams cross when they pass through the aperture. The camera obscura produces an image inside a blacked-out room of the world outside the room; this image is inverted but has its perspective and colour perfectly preserved. It would be to us in our privileged twenty-first century media-savvy positions, like viewing a living photograph, or a live-feed of the outside world. The sixteenth century Neapolitan scholar John Baptist della Porta describes the method of producing an obscura in book VII of his work on Natural Magik:

You must shut all the chamber windows, and it will do well to shut up all holes besides, lest any light breaking in should spoil all. Only make one hole, that shall be a hand breadth and length. Above this fit a little leaden or brass table, and glue it, so thick as a paper. Open a round hole in the middle of it, as great as your little finger. Over against this, let there be walls of paper, or white clothes, so you shall see all that is done without in the sun, and those that walk in the streets, like to Antipodes, and what is right will be the left, and all things changed. . . If you put a small centicular Crystal glass to the hole, you shall presently see all things clearer, the countenances of

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men walking, the colours, garments, and all things as if you stood hard by. You shall now see them with so much pleasure, that those that see it can never enough admire it.\textsuperscript{333}

The \textit{camera obscura} has over the centuries been given a special place in artistic discussion because of its ability to produce an image of "real" life under artificial circumstances and because of its apparent ability to exemplify how the human eye might work, and as part of this opens the gates to the understanding of the science of optics in general.

\textbf{The Problem with Re-mediation}

Artistically the \textit{obscura} demonstrates the principles of perspective and of the behaviour of light. Jonathan Crary, the American Art historian, cites a number of artists and philosophers who all considered in detail the optical phenomenon the device produced, notable amongst them Leonardo Da Vinci, Roger Bacon and Johannes Kepler.\textsuperscript{334} Writing from the perspective of the fine arts, Crary laments that at the start of almost every study on cinema or photography there is a discussion of the \textit{camera obscura}, or at the very least, a picture somewhere of the device and its comparison to the eye. Crary's main objection to the use of the \textit{camera obscura} in this way is in direct opposition to the remediation theories of Bolter and Grusin: The camera obscura, then, cannot be reduced to a technological or a discursive object: it was a complex social amalgam in which its existence as a textual figure

\begin{footnotes}
\item[\textsuperscript{333}] John Baptist Della Porta \textit{Natural Magik} (1584), trans. Unknown (Sioux Falls: Nu Vision Publications LLC. 2005) 335.
\end{footnotes}
was never separable from its machinic uses. Remediation does exactly this, it separates out the technē from the alētheia, separates the mechanical craft from the art it reveals. Crary insists that the camera obscura 'must be extricated from the evolutionary logic of technological determinism... which positions it as a precursor or an inaugural event in a genealogy leading to the birth of photography.' Boenisch echoes these words with reference to the remediation of Bolter and Grusin: "The similarity in technology easily produces what looks like an evolution of ever more refined visual representation. Once we have arrived at our destination, all detours wrong turns, and roundabout ways either seem like the most logical path or they are simply forgotten and ignored." In some ways this thesis is also guilty of claiming the camera obscura as some kind of origin of the live feed, but where my theory differs is in the treatment of the 'amalgam' of the device as a 'textual figure'. This study has no desire to strip away the textual existence of the device in the way that remediation does, and it is under no misapprehension that it will find an origin, only relevant precursors.

In order for something to be remediated it has to be a medium, to be mediated in the first place. For the camera obscura to be remediated you have to distinguish it as a medium, but to do so separates out the technē and the alētheia of the textual figure that Crary believes it to be. The technē in this instance is the mechanical means: the blacked-out box and the hole. The alētheia is the image of the "outside" inside the box. These two things are inseparable, they are Crary's 'social amalgam', even Heidegger does not try to separate them, nor does he suggest that we do. They are both poiētic things, they are means of bringing forth. The medium of the camera

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335 Crary 31.
336 Crary 31.
337 Boenisch 108.
338 Crary 31.
obscura may be the inverted image produced, or revealed as Heidegger would have it, but the mechanical construct that is the camera obscura in this example is a mediating device, it is the process that produces the image and is therefore in this instance the technē (the craft of the art) revealing the alētheia (the truth) of the inverted image, together they are a poiēsis which Crary refers to as a textual and social amalgam. The technē cannot be separated from the thing revealed as the theory of remediation requires us to do, separated from the alētheia, because it is a poiētic thing. The camera obscura is both the construction of the room and the inverted image of the world outside, and as we can only mediate the image it produces, the alētheia, or mediate the device, the technē; remediation across time therefore destroys the poiēsis. It is possible as it is essentially a thing mediated that the alētheia can be removed from the technē, but the technē the process of craft that creates the medium cannot be removed from the alētheia. It is all one poiētic process with technē being analogous to the foundations of a house and the alētheia is the house itself built on the foundations. You can meddle with the building, but not with the foundation. Remove the foundation and the building collapses. You can alter the building, add other things to it or remove it all together, but you can not do that to the technē. The historical idea of technological remediation is damaging because the compromise that is made is that the alētheia and the technē have been separated and while the image is remediated through time, the technē is ignored.

The camera obscura is a performative device and a writerly text; remediation of performative technology separates the technē from the alētheia to the detriment of the poiēsis therefore it cannot be mediatised or remediated without compromising its poiētic value. A better way of looking at this is through the idea of re-invigoration and diversification over time. Through re-invigoration we bring the technology back
to life as it were, complete in itself with perhaps the addition of new and different technologies which enhance each other; and through diversification by them interpolating other technologies to enhance them with their own qualities. That these two processes can occur is not to reduce them to mere modes of technē but to embrace them as artistic things in their own right.

Further to this is a small observation, one intended to put this particular idea of technological remediation to rest from a different angle: the image revealed by the camera obscura is more than "live". It happens at the speed of light which at the distances we are talking about could be considered the instantaneous now. The obscura does not 'store and . . . expedite' the image like a photographic camera does, it is not like a readerly text, it is a writerly one and exists at the moment it is observed. This is perhaps why Crary is dissatisfied with what the historical surveys try to do, especially when observers of early obscurae 'frequently spoke with astonishment of the flickering images within the camera of pedestrians in motion or branches moving in the wind as being more life-like than the original objects.' A point we will return to later.

**Analysing the Live-feed Technology**

In the examples from practitioners and theorists in performance and media studies looked at so far in this chapter, we have seen how close the two distinctions of text and media are, how they are separate only barely and by dint of my somewhat artificial positioning of them. It is in this subtle separation, however forced that it

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339 McLuhan 158.
340 Crary 34.
may be, that the chink of difference is all important, because the same flaw lies within all of their basic preconceived ideas of theatre technology. Let us look once again at some of those practitioners and theorists -- at Kozel and Causey and at Auslander and Phelan -- and examine the foundations of their technological thinking in relation to the theories of Heidegger which are becoming increasingly relevant to the main philosophical arguments of this study. In particular this section will look at how they conceive and apply theories pertaining to the use of "live-feed" or live-camera technologies used in performance.

In theatre and performance we have found ways of talking about how new technology is affecting our embodied performance through phenomenologies like those offered by Susan Kozel in her work *Closer*. Kozel offers a view that bodily technique has a place alongside advanced media technologies in crafting theatre and dance art. Kozel accounts for processes of the mind and body to form parts of her technē as well as technology in her performance poiēsis.

Mathew Causey in his work *Theatre and performance in Digital Culture*, explores the philosophy of the digital age and its relation to modern performance and techno-culture. Causey's work makes great roads into understanding the affect that a digital culture has had upon performance, how it has changed notions of the body in space, performance and in itself. For him, the question is becoming one of bio-virtuality for modern practitioners rather than of liveness; technology and theatre performance are the technē which reveals the digital culture. Causey suggests that

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341 One of the axioms of Gabriella Giannachi’s book on *The Politics of New Media Theatre* relies upon this concept of techno-culture, where 'technology, culture and society do not operate separately but are intrinsically embedded in one another. Technology is not only grounded in materiality but also in discourse, fiction and society.' Gabriella Giannachi, *The Politics of New Media Theatre; Life®™* (London: Routledge 2007) 2.
there may be many different technical and performative processes within the *technē* and that they reveal *poiētic* truths within themselves.

Phillip Auslander and Peggy Phelan are less concerned with these Heideggerean distinctions, preferring to deal with the differences of mediation and mediatization in relation to intermedial performance. Bolter and Grusin conflate technology with *technē* in their theories of remediation and make no allowance for other things to be *technē* like Causey and Kozel do.

Technology in all of these theories is always in a position of craft, a position of *technē*. When technology is not present as *technē*, it is not present in any other form within their discussions, or at least they do not acknowledge its presence in any other *poiētic* mode because none of these parties allow for technology to be *alētheia* -- the truth that is revealed by *technē*. They allow technology to be *technē* and therefore *poiētic*, but they do not allow technology to reveal its own artistic truth. They do not acknowledge that technology has an aesthetic affect, or even that it has the possibility of an aesthetic affect, they only acknowledge it as a form of craft, as a thing done, as a medium which is, of course, the message.

Through re-invigoration and diversification, the relationship to a device remains intact, there is no separation of *technē* and *alētheia*, nor is there a restriction of technology to a single poetic mode. I think technology can be the thing revealed, the *alētheia*, in fact my model depends upon this very idea. Theatre technology looked at in a textual manner has a greater scope than technology thought of as medium.

So let us return once again to Festa's feet, Peggy Phelan and Phillip Auslander. Through re-invigoration, nothing is lost of the original. By searching for a simpler pre-cursive form of the technology we need to examine we uncover an
essence of what that technology aesthetically means, but not necessarily the quintessence, that being, as with the origin, an impossible place to reach without the search becoming deterministic. The live camera feed is a less simple form of a camera obscura, there has been no detour, no loss of technological identity no loss of poiēsis. The camera obscura essentially "projects" a live image onto a surface. All issues of performativity, liveness and mediation that a live camera feed on stage raises can be traced directly back to all the same issues connected with the camera obscura. However, other technologies are present in this circumstance, the camera obscura may me the simplest form of the live feed, but in a modern live feed one does not climb inside a camera obscura, the image is projected, not upon an inside wall, but onto a screen by the RGB projector that Auslander missed. This modern live feed is a less simple version of not one technology but at least two.

Aesthetic Analysis

So let us now look at what a live feed is in terms of the essences we can uncover in the relevant precursory technologies: beginning with the now familiar camera obscura and then the previously promised analysis of the magic lantern. This is not a complete aesthetic analysis of the camera obscura, to embark upon such a task is beyond the scope of this thesis. The aesthetic analyses found within this study are only meant to exemplar and not definitive offerings. Although at this point of the work we are approaching a position where we might be able to embark in earnest upon such a study, this study is about building the foundations for such work and the foundations are not yet secure.
Towards an Aesthetic of the *Camera Obscura*

*Camera obscura* as a name for a device is both apt and misleading: *camera* has roots in Latin and Greek and means "vault" or "chamber" and *obscura* comes from the Latin for 'dark'. I shall call the person who enters the *camera obscura* for the moment, an observer, for they are not there to be an audience for a performance, they are there to observe an image of life caused by a scientific phenomenon and see 'within a prescribed set of possibilities'. They are there, confined inside the *camera obscura*, the "dark chamber" and are sightless having just come in from the bright light outside. It will take a while for their eyes to adjust to the dark and slightly longer to register the difference in light quality caused by the small hole in the wall. When their eyes finally do adjust they will be looking at view of outside the room inverted on the opposite wall, it will be as if they were looking through a window, but there is no window only a piece of white material, and the image they are seeing is both laterally and vertically inverted.

There are a number of aesthetically interesting things which emerge here that need highlighting as important, though I cannot say what they begin to mean, to do so would be to try to nail them permanently down as having a set meaning, any attempt to do so would leave the arguments of all of this work open to criticism accessible through the aesthetic treatment of this device. I shall instead endeavour to highlight what I think is happening aesthetically and try to illuminate why I think those things are important.

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342 Although della Porta suggests that it might be nice to stage one, having a set up a view with 'woods, mountains, rivers, and animals that are really so, or made by art of wood, or someother matter. You must frame little children in them, as we used to bring them in when comedies are acted.' della Porta 336.
343 Crary 6.
Firstly the act of having something presented for viewing; the cloistering and removal from the outside world of light to the seclusion of a darkened chamber, which at first seems completely without light, is an unnerving thing. It enhances the sensation that Jacques Lacan refers to as the ontological split between the eye and the gaze: 'I see only from one point, but in my existence I am looked at from all sides'; and for the short time it takes for the human eye to adjust, the observer is in a position of vulnerability, even if accompanied, blindness is a solitary and deeply personal thing.

Having had their sight removed, the observer's sight is then replaced with a single aspect vision. An aspect of one view, unmovable, uncontrollable by the viewer; it is a surrogate sight, a second-hand aspect of vision over which the observer has no control. Offered this single view and not permitted to look elsewhere, because of the fixed aspect and because there is not enough light to see anything else inside the room, that one view takes on special significance. Why this view? Why this direction? The fixing of a view is an invitation to gaze, it provokes looking, to concentrate on the detail of that one framed view.

The inverted image is bound within the framing of the view and performs a similar but additional framing to the fixation of the aspect: it is also the world made strange and backwards not just mirrored but turned upside down. There is a child-like fascination attached with this phenomenon, it is our world but it is also not a world that belongs to us. Henri Lefebvre writes:

> Duplication (symmetry) implies repetition, yet it also gives rise to a different constitutive of a space... duplication and symmetry/asymmetry call for causal notions irreducible to classical (serial and linear) ideas. When the mirror is "real", as is constantly the

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345 Lacan 75.
case in the realm of objects, the space in the mirror is imaginary – and ( . . . ) the locus of the imagination is the "Ego". 346

But in the camera obscura, the world is not merely a mirror, it is duplication of space and the laws of those spaces are inverted, but unlike the image made by the mirror, the observer is not in it. The Ego has been removed.

There is a further objective distance created by it, an analytical distance created by the framing and enhanced by the inversion. This is an image, which is not "real", but objectively presented, which happens simultaneously without delay, framed, fixed and inverted in two dimensions. The colours are the real colours; the light and the shadow, the real light and shadow; and what is witnessed is totally unpredictable, random and chaotic, as only life can be.

The observer is inside looking to the outside, but the manner in which the outside is presented is such that the distinctions between outside and inside become slippery, ready once again to 'exchange their hostilities'. 347 Outside and inside become interchangeable from inside a magic box. You are inside-seeing-outside-inside. The interchangeability of these distinctions are fluid, the multitudinous levels of framing further objectifying the observer so that the surrogate "viewing" of the device replaces the physical action of, "seeing". "Seeing the view" becomes "viewing a sight", and the space outside becomes a smaller internal space.

347 Bachelard, The Poetics of Space 218.
Towards an Aesthetic of the Phantasmagoria and Magic lantern

The magic lantern facilitated the projection of images by the focussing of intense light through transparent glass slides. Ostensibly the person who invented it was the seventeenth century German Jesuit scholar Father Athanasius Kircher (1602 - 1680), though modern scholarship casts some doubt upon that. Kircher was apparently well known for academic hyperbole regarding his own skills and abilities, having a tendency to collect up other people's philosophies to make it look like they fit with his own superior ones: 'At the height of his career, Kircher created a kind of typographic labyrinth that temporarily trapped all the best minds of the mid-seventeenth century in his books.' His methods were questionable, his scholarship based on fabrications and his observational skills were severely lacking, but this didn't seem to matter for a long time, the general European public being happy to accept what he said and wrote as his own work and in the main part accurate: historian Paula Findlen observes that 'Kircher succeeded because seventeenth century society wanted him to be successful. They had questions, and he provided answers. What more should they have wanted? And indeed what more should the succeeding centuries have wanted from a figure who allegedly invented the magic lantern? Scientists such as Leonard Dunnel Gale, the Reverend Jeremiah Joyce, Dr Olinthus Gregory and John Henry Pepper all seemed perfectly happy to

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348 The phantasmagoria and the magic lantern are actually the self-same device used in a different way, but the ways in which they are used produce very different effects which shall become apparent.
351 Findlen 11.
cite Kircher as the inventor of the device, it being more critically important for them to establish the science behind the magic than to question the historical validity of Kircher's claim. Leonard Dunnel Gale, a nineteenth century scientist describes the Magic lantern as:

an amusing as well as instructive optical machine. . . composed of a square tin box, containing a lamp, behind which is placed a metallic concave reflector. . . and in front of the lamp is a plano-convex lens. . . which receives on its plane surface the reflected light of the lamp, and concentrates it on the object which is magnified by another lens fitted to the extremity of the tube projecting the lantern.

With this lamp housing projecting light onto a surface, two types of effect can be achieved. Using plates of translucently painted glass placed at the focus point of the first lens, images can be projected up onto the screen. A magic Lantern was controlled from the front of the screen from within the audience; the lantern would produce a large round image frequently with images of a pastoral or an instructive nature, often accompanied by a narrative performed vocally by the person who controlled the slides: the magic lanternist. Phantasmagoria were produced using the same device, the differences here pointed out by the Reverend Jeremiah Joyce in his Scientific Dialogues intended for 'Young People':

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354 It is interesting to note at this point that the basic principle of the Magic lantern's construction, not only informs the composition of the RGB Projector in Phelan's case study, the cine projector and the modern LCD projector, but also forms the basis of the electric theatre lantern. In fact, a modern GoBo (short for 'go-between') works in the same way: a metal disc with shapes punched through it, is used to produce shadowy break-up effects in stage lighting design. It sits between the objective and focal lenses of the lamp and behaves in exactly the same manner as a seventeenth century magic lantern. Some GoBos are even made of painted glass and produce images exactly like the magic lantern.
355 I was able to visit a special exhibition celebrating the magic lantern: Lantern Magique et film peint: 400 ans de cinéma, La Cinématèque Francais, Paris, November 2009. It was interesting to note that Kircher did not feature greatly in the presentation of the history. What was more interesting was the huge diversity of extant magic lantern and phantasmagoria slides, ranging from children's fables and scientific drawings of animals and insects, through to smutty cartoons and out and out pornography.
in common magic lanterns, the figures are painted on transparent glass, consequently the image is a circle of light having a figure or figures in it; but in the phantasmagoria all the glass is made opaque, except for the figure only, which being painted in transparent colours, the light shines through it, and no light can come upon the screen but what passes through the figure.\textsuperscript{356}

The phantasmagoria were intended for projection from the rear of the screen, the glass in the lantern gate was a normal slide entirely blacked out except for the colour pictures of ghosts and goblins and daemons which would appear suspended in mid air, having no apparent surface to be projected onto. The screen used for phantasmagoria was an almost transparent silk one, the projector, hidden from view, would shine these scary images onto the silk screen, the apparent effect being one of free-floating apparitions.\textsuperscript{357}

In the aesthetic analysis of which follows I have treated the phantasmagoria and the magic lantern as a single device capable of the full range of effects that would normally distinguish the technology in its two separate uses.

Unlike the observer shut inside the \textit{camera obscura}, the spectator of the magic lantern is a social being, the images the lantern displays are presented to an audience and there is always more than one member of that audience because the lanternist or the operator is always in accompaniment. This is no private show for a solitary person to objectively view a "real" but distanced image on a screen, but a presentation of painted images projected for entertainment and enlightenment. The images shown have therefore been selected, painted, worked upon, chosen. This is a controlled viewing, where the images that are shown are presented to the audience

\textsuperscript{356} Joyce 374.

\textsuperscript{357} In the displays at La Cinématèque Français, were a number of phantasmagoria slides which had small articulations set into dual glass plates, the resulting slide would not just float in the air, but appear to move. A re-created phantasmagoria consisted of medusa heads, and flying bats, all "animated". There was also the opportunity to articulate slides in your own phantasmagoria show. It was most amusing to make the depiction of an aristocrat lose his head to a guillotine.
deliberately. The pictures may be presented physically in the now, but they have been pre-chosen for their individual artistry, spectacle, interest or titillation.

These images are storable and their affect repeatable and predictable. The images are carefully painted, with great care and attention to form and detail, they are artistic representations painted translucently upon glass in a way which allows the transmission of light rays which make up coloured images in sensible forms. In places the slides are painted black, so that no light can pass through the glass, there is the absence of light, not of shade, not of a thicker, more heavily painted colour, but a definition made in the negation of light. Whiteness or areas of white are due to the absence of paint on the glass, blackness is due to the presence of paint. The light does not dim, nor does it simply "go out" in one area of the slide. It is prevented from leaving the lantern through the image, poetically meaning that light is absence, and darkness, presence.

Here too is an inversion and the slide must be put in upside down and back to front to anticipate its inversion. This lateral and vertical inversion has been corrected before it is viewed; the resulting image is "right" when viewed on the screen, but its correctness is a deception, the image projected is never "true" to the slide presented.

There is a further illusion involved with the lantern, beyond the illusory potential of the depicted images. The illusion of the control of light itself. The lantern's apparent ability to produce or send light intensely in one direction, to manipulate its colour before it leaves the lantern, so that you are not simply lighting a picture, but painting a picture with light. You are manipulating the shaft of light so that it expresses colours and shapes that do not exist before they hit the screen. This is the intrigue of a painting bottled up to be let out only when needed or required, one that requires no canvas, no plaster frame or daylight to view. The light comes from
within the lantern, it does not use external light to produce an internal image like the
obscura, it shines light from within, outwards. The lantern and its brilliant light
source can be packed away and boxed up with tens of slides ready to be carried away
to another location and shown to a new audience.

Boxed up but not separable. To view a slide without the lantern is a very
different thing. The glass sits in a square wooden frame and is blacked out except for
one or two small circles, and in those circles are painted the subjects of the slides.
Holding them up to the light, illuminates the picture, but it is small and cramped and
dim, even with the application of strong sunlight. The slides may be physically
separable, but without the lantern they are merely small fragile paintings. With the
lantern they are as they are meant to be: gigantic, luminescent and intricate images of
every imaginable scene and narrative all contained within one magical device.

Towards an Aesthetic of the Live-Feed

The modern live feed is a camera obscura and a magic lantern. Where one
begins and the other ends, is inconsequential, the video camera and the video
projector contain the aesthetic effects of both of the less complex technologies. The
camera obscura may seem to produce the same overall affect, but to dismiss it as
exactly the same diminishes the meaning of the modern technology in an acutely
deterministic fashion. Eliding all the historic detours is to ignore their relevance and
individual meaning. The feed is not truly "live" in the sense that the performance is,
but then it is not truly mediatised either, in the sense that Auslander reckons defines
the liveness of the performance.
It may help to trace the journey of the "lived" performance through the technologies: the performer is lit by an external light, an image is formed which is inverted and framed with all colours, light and perspectives intact; but it is presented to us reverted and inverted, depicted, framed anew and projected using an artificially controlled light source. At any point in this process the technologies involved are personal, secluded and voyeuristic, chaotic and unpredictable, intense and artificial.

We the viewer, are subjected to surrogate sight, allowed to see, but not to view, asked to be objective and subjective and to consider the images real and artificial, all at the same time in the present "now". The image in the live feed is both depicted representation and actual living. And afterwards, the whole thing can be boxed up and taken somewhere else.

So to bind this in with the analysis of previous chapters, where in the live feed used on stage is the locus of the space? In Phellan's description the performer is to one side, the technology is surrounding the audience member who must chose what they look at and are inevitably drawn to the mediatised images of the performer. In this example, the space of the performance is very different to that of the nineteenth century proscenium arch theatre; it is open, bare and industrial. The performer is trussed-up, literally, and presented to the audience without any apparent barrier. She is positioned in the platea of the "stage" in this performance, well within the performative frame, but within the "reach" of the audience via the 'opening in the mise-en-scène through which the place and time of

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358 Making the performance "lived" allows us to position the moment of Auslander's subject becoming "live". "Lived" implies that "liveness" will happen at some point, but chronologically allows for the process to "have not happened yet" rather than imply that the performance is "live" in anticipation of mediatization, we can allow it to be "lived" in anticipation of being "live".
359 Phellan 155-156.
360 Again the study's focus is primarily upon the technology. Although the body of the performer and the audience and the image on the screens are important, they have been privileged in other discussions to the detriment of an analysis of the aesthetics of technology.
361 The image Phelan provides is of a large painted-brick room with stripped-wood floors. Phelan 156.
the stage-as-stage and the cultural occasion itself are made to either assist or resist the... spatially and temporally remote representation.\textsuperscript{362} The performer is present in the \textit{platea} and then is represented on the screens and as the audience is free to wonder around this postdramatic space to 'see for themselves',\textsuperscript{363} the performance takes place almost entirely within that \textit{platea}. According to Miiake Bleaker in her work on the visuality of theatre, in nineteenth century theatre, the dramatic theatre, the audience was presented with a 'stable and detached point of view, allowing spectators to project themselves into the onstage world. This simultaneously brings the spectators closer to the world on stage, while creating a distance from their bodies as the loci of their looking.'\textsuperscript{364} This self-projection is unavailable in the space of live-feed, there is no stage space to project oneself into, there is only a camera and a projector projecting the mediatised images. The dramatic action of movement from the social \textit{platea} to the heightened \textit{locus} is not possible physically only technologically: the audience are allowed access to the \textit{locus} only via the live-feed technologies, because the heightened 'specific imaginary locale or self-contained space'\textsuperscript{365} is the space of the mediatised image projected onto the screen. So in the case of the live feed, the technology presents a physical barrier between the audience and what is apparently the \textit{locus} in a similar way to the proscenium arch and the cultural norms of the nineteenth century theatre. When the performer moves from the \textit{platea} of the live performance into the mediatised representation of the projection image via technological means that movement is dramatic: to all appearances it is a movement from the \textit{platea} to the \textit{locus}. However, in the example of the \textit{camera}

\textsuperscript{364} Bleeker 15.
\textsuperscript{365} Weimann 181.
obscura and the magic lantern, the image and the technology are bound inextricably
together. If technology is textual and not medial as I have argued, then the *locus is
the technology also.*

"New" Technologies and their Advance or Development

*Digital Performance: A History of New Media in Theatre, Dance, Performance, and Installation* written by Steve Dixon with contributions by Barry Smith is the seminal modern text on the history of what has been termed "digital theatre" and "new technology". Their book sets out to cut through the 'hyperbole and the critical "fuzzy logic" that has surrounded the field' of new technologies, allowing them to be fetishized rather than examined for artistic meaning and content.\(^\text{366}\) Dixon surveys "digital" performance from the 1960s to the present and draws parallels between classical *deus ex machina* and the art movements of futurism and constructivism with modern "digital" performance practice. There is inevitably an overlap of themes and texts with this thesis and Dixon's work, but not of philosophy. While I agree with Dixon's views on the fetishizing of modern technologies and applaud his pursuit of identifying the aesthetic they add to performance, Dixon's position is grounded in media theory. I also agree that the technology he is talking about is a means to 'reconfigure fundamentally artistic or social ontologies' and not

just a tool for enhancement, but even as means for ontological change technology is considered by Dixon as only technē.

With the model this thesis's arguments have been trying to construct, the technologies will always form part of the greater language of the stage. They are after all like segments of lexia, writerly texts, ready to be pieced together paratactically as they happen to make an infinite variety of greater texts. They exist not merely to be technē in the alētheia of the theatre, but to be alētheia themselves as part of a whole collection of other alētheia that make up poiētic theatre. This means that just as the performance of an actor or actress can be separated out as individual alētheia in a theatre production without affecting the poiēsis of the whole event, so too can the performance of a technology be separated as alētheia and shown to be artistic and not merely craft.

The live camera feed, means something that is artistic that is contained within itself, just as the magic lantern does, just as the camera obscura does. The amalgam of aesthetic meanings that the modern live feed may contain can be traced back to these technologies and their aesthetic meanings. It is arguable that they might still be media and the live-feed a medium which garners content from the other theatrical media around it but as a final nail in the media argument I would like to consider Marshal McLuhan's light-bulb once more: 'The electric light escapes attention as a communication medium just because it has no "content"; and it doesn't get any content until it is used in conjunction with another medium: '[t]hen it is not the light but the "content" (or what is really another medium) that is noticed.'

367 Dixon 8.
368 McLuhan 9.
Advance and Develop

The electric light to one who would wish to see it as a theatre technology and not simply a medium, does have a content of its own, and in its content lies the kernel of why new technologies are not new. Historiologically we should be very much aware of using the words: advance and development. Both words have a certain causal inevitability about them and when used in histories cause a great deal of trouble with issues of subjectivity. For the purposes of this discussion they will be used semantically, because the difference between them is very important. Development is something which did not exist in any physically similar form before its invention but had been unwrapped from an idea or a need to fill a practical lacuna: an example of a development would be, Sir Humphrey Davys’ development of the incandescent light filament in 1802, no one had previously thought to make light energy from electrical energy in a controllable way.  

A technological advance is the application of several other types of technology to further the original development, or the combination of several developments furthering them as a whole; it is a movement from one level of technology to another along the same branch. By this definition Edison’s electric light-bulb is only an advance in electric incandescent light; he can join the nineteenth century turmoil of Joseph Wilson Swann, Frederick de Moleyns, James Bowman Lindsay, Warren de la Rue, John W. Starr and Jean Eugene Robert-Houdin in the list

369 There had already been the invention of the arc-light, but I think that the discharge of an arc of electricity from one positively charged carbon rod to a negatively charged one constitutes artificial lightening and not controlled lighting.
370 Describing technological development in terms of trees and branches is something that has fallen into the colloquium from computer game narrative structures and is beyond the scope of this thesis. While interesting and useful in a strategy computer game, it is a very determinist term used here to illustrate rather than demonstrate.
of nineteenth century scientists who all made radical advancements with Davy's development of the electrical incandescent light filament.

Now historiologically we have already seen that these distinctions and this definition is weak, simply by shifting the viewpoint a development can look like an advancement and vice-versa. One could say that Edison's light-bulb was a development because he made it commercially viable and another could say that the candle was the development of domestic lighting, and the electric light only the advance. All history can be broken down in this way. So to remove the history temporarily from this argument not only makes the definitions simpler but also clearer. In theatre we can do this by isolating a technology and attempting to break it down in to its least complex forms, to find its pre-cursor, then analysing what they mean and amalgamating them back into the modern technology as demonstrated, in part, earlier in this chapter. In this circumstance it has two results: the light bulb has more content as a text than a medium, and secondly, it shows that new technologies are not new.

**Future shock and Digital Complacency**

This technological world we live in was described in the seventies as a place where we would experience something called "future shock" where the world would advance technologically at such an alarming rate that we could psychologically not keep up with it. We live now in a world of ubiquitous computing, mass media, new media, the bio-political and post-human and we instead refer to everything as digital technology and wonder how it is affecting every aspect of our culture. Katherine Hayles asks *How we Became Posthuman* and her answer as a materialist analysis of
the question is astute. We did not become post human because we were overwhelmed with technology, it did not pass us by leaving us in its wake too dazzled to complain. Modern technology became too easy to use, 'especially for users who may not know the material processes involved, the impression is created that pattern is predominant over presence.'\textsuperscript{371} The signifiers provided by the technologies were easier to accept than the understanding of the sociological processes involved in that technology, 'from here it is a small step to perceiving information as more mobile, more important, more \textit{essential} than material forms.'\textsuperscript{372} Indeed, as information based technologies have become ubiquitous over the last decade there has been a corresponding shift in attitudes towards them as 'changes in signification are linked with shifts in consumption,'\textsuperscript{373} one of those shifts has been an increased awareness in theatre criticism of "new" technologies, in particular the idea of "digital" technologies. Like "liveness" and mediatisation, "digital" has "plunged into visibility"\textsuperscript{374} due to the material shift in post-human perception. Technology has become "user friendly", significantly simpler to use, while the technologies themselves have become physically much, much more complex.

The result in theatre is that "digital" has become inseparable from theatre technology, not in physical terms, but in terms of perception. For most theatres in Britain, the advent of computer programmed sound and lights has been a gradual introduction, automation and ease-of-use have often been a high priority back stage. There have been on the markets for some time, digital sound desks, digital vision mixers, digital cameras, digital lighting consoles and digital control for moving lights. Some of these technologies are discrete separate items, some are entirely

\textsuperscript{371} Hayles, \textit{How we became Posthuman} 19.
\textsuperscript{372} Hayles 19.
\textsuperscript{373} Hayles 28.
\textsuperscript{374} Phelan 148.
based in computer software. Back-stage, which has not been surprising, modern theatres are often run on business models, it is only logical to remain as "state-of-the-art" as possible, but as we as a society have become more post-human, as Hayles would have it, as we have become more familiar with information systems pervading our everyday life, our society has become more technologised. So too have our theatres and our methods of production; as Jensen points out, 'the audience's vocabulary for reality has been expanded through intimate interaction and experience with technology.'

We live now in the techno-culture that Causey speaks of, and theatre is a socially reflective art so the technologised culture that we live in is being represented more and more upon the stage. "Digital technology" therefore has gained special significance to this thesis, not because it affects theatre technology, but because it is perceived to have affected theatre technology. In order to discover what modern theatre technology might mean aesthetically, we must separate out the pattern from the presence and ask is "digital theatre technology" a presence or a pattern, does it exist at all?

"Digital technology" is actually an advance in many disparate technologies and is not a development. In theatre it has meant that several similar advances have caused technologies that were large and expensive and cumbersome, to become smaller and cheaper and more ubiquitous. A reduction in their user complexity and an increase in their sophistication has meant that many technologies familiar in theatres for many years have gone from being bulky quasi-industrial objects to almost cyberneticised additions to personal and domestic spaces. The projector for

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375 Jensen warns us however that audiences are just as likely to reject that imitation of reality as they have rejected imitations of realities in the past. Jensen 85.
example, which we have looked at in the form of a nineteen eighties RGB Projector is a monstrous piece of equipment compared with what we have access to now-a-days: a model of RGB projector from the Sony corporation which was commissioned in 1998 weighed 52kg and was over half a metre wide and deep projecting an image that was 150 ANSI Lumens bright. A little over one decade later and a comparable piece of technology from Sony corporation weighs only 1.7kg, is 273 x 45 x 206 mm (width x height x depth) and 2500 ANSI Lumens bright. In just thirteen years there has been an incredible advance in technologies which are contemporary to incredible advances in techno-culture, so it is easy to conflate all technologies with "digital" technologies.

Digital exists as a method of thinking, or as a method of counting discontinuously, but it has no physical form at all beyond that of a neuro-chemical reaction in the human brain. In terms of techno-culture "digital" is a crucial idea that shapes the way we process information both physically and virtually because, as Boenisch points out, 'the invention and invasion of electronic microchip technology has profoundly affected our ideas of what constitutes a medium because digital information processing undermines any clear-cut specification of sign-systems, genres, and media. Katherine Hayles might suggest that we have become so used to the idea of "digital" that we have started to perceive them as 'interpenetrating material forms' including the forms of theatre. "Digital theatre technology" is a

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376 A Sony VPH722Q1 multi-scan projector. This projector would have many elements which could be considered more advanced than the one that I have speculated was used by Angelika Festa for Untitled Dance (with fish and others) in 1987.
377 603 x 345 x 671 mm (approx 24 x 13 x 26 inches; width x height x depth)
378 ANSI Lumen is a measuring method of American National Standard IT 7.215
379 A Sony VPL-MX20 LCD Projector
380 This is not to mention that recent LCD (liquid crystal display) advancements and new ultra-bright LEDs (Light Emitting Diodes) have led to hand-held projectors such as the Optima Pico Projector
381 Boenisch 104 [his italics].
382 Hayles 19
tautology, however. There is only theatre technology. Digital culture, a social phenomenon brought about by this wave of advanced and user simplified technologies has made us aware of it. Digital technology is an appeal to the technē of our culture in avoidance of understanding the alētheia of technologies that we have become so very much aware of but cannot yet describe. We have to examine not what digital is doing to theatre, but what technology is doing and what it has always done by seeking out the essence of each technology we use and exploring its affect upon us the performers, and them the audience.

"Digital theatre technology", then, is a tautology, but "digital technology" is not. The reason the idea of "digital theatre technology" is so discomforting, is that it makes theatre technology seem mundane and domestic. It takes a branch of theatre production and makes it accessible to the audience in a way not seen before, and consequently the theories and discussions that have arisen from digital theatre technology seem to be ones that are couched in domesticity, embedded in the banal. Digital is something that is ubiquitous in society, it has passed through the social constructions that we build around theatre-going with apparent ease, not because it has just arrived and is really good, but because it was there in the first place; because it has only just been acknowledged, it has only just become "visible". This is very much like what Kattenbelt and Chapple say of our 'changing perceptions of performance, which become visible through the process of staging',\textsuperscript{383} the processes of staging technology make it visible; but it is wise to remember that visible is not simply the opposite of invisible, and does not mean non-visible.\textsuperscript{384}

\textsuperscript{383} Chapple, and Kattenbelt 'Intermediality in Theatre Performance' 12
\textsuperscript{384} Maurice Merleau-Ponty The Visible and the Invisible (Evanston: Northwestern University Press 1968) 66, 98-99.
The Frame of Theatre

A fault of the theories in this study theory is actually a strength of McLuhan's, while we have been struggling against the idea that a single electric light is medium without content but still with a message and saying that it is a text that is constantly in a state of being written, of bringing forth, we have missed an obvious chink in his armour. The electric light is of course a medium. Technology is not always technē, but when it is, it is rarely anything else; unless it is placed on a stage, unless we are told to look at it.

Theatre is a frame, both as an abstract concept and as a place, as is performance also, as a construct and as a concept. Irving Goffman, the sociologist responsible for Frame Analysis, said he assumed 'that definitions of a situation are built up in accordance with principles of organisation which govern events. . . and our subjective involvement in them.'385 The situation and organisation of a theatrical performance in a space is therefore a type of frame and though there is often not a physical frame any longer, there is still a social frame governing how we behave in a theatre situation.386 Goffman's idea of what a theatre is, is somewhat dated, even at the time of writing his theory. His notions of audience and of playing space and their delineations were very much based on his own culturally relativistic experience, but his frame theory explains that the frame of something is built up, in, around and upon

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386 In the introduction, pains were made define performance slightly more loosely than Hans Thies Lehmann defined performance: the definition given in this thesis removed it ever so slightly from the realm of the human performer announcing their performance. Instead a definition was offered that said more overtly that the invitation or the announcement could come explicitly through a performer or implicitly through an audience's realisation that they are witnessing a performance. This definition allowed the leeway to suggest that a mechanical device was performative, because the audience was implicitly witnessing its announcement as performance in the act of doing so. This is an example of one of these social frames: the audience is invited to expect a performance by the theatrical frame.
what is expected socially of that frame. The theory is a relevant one, even if his theatre theory is questionable by contemporary standards, his observations about the popular modern stage in the 1970s were accurate and for the most part remain so today, the theatrical frame may have changed shape, but it is still a theatrical frame.

One assumption of the theatrical frame in particular is certainly adaptable to many different forms of theatre performance from physical theatre through to the avant-garde: 'The spatial boundaries of the stage sharply and arbitrarily cut off the depicted world from what is beyond the stage-line.' Goffman is referring the physical boundary of a proscenium arch stage, a "traditional" (in his eyes at any rate) theatre stage, and one that is certainly useful to a discussion of the nineteenth century stage; so his point is conceptually valid to this discussion and valid in the most part for most theatre performances. There is a break, a boundary between *locus* and *platea* and audience, a boundary which varies and is often tenuous and vague, one frequently bleeds into the other, but it is a boundary none-the-less. Within this boundary, action, objects, scenery, actresses, costumes, dirt, rubbish, glimpses of stage hands, technology are all subjected to the intense gaze and scrutiny of the audience. Everything within the frame is scrutinized, questioned, looked at through the frame, as the observer does the image from the *camera obscura*. Everything seen within the theatrical or performative frame, therefore, must mean something.

McLuhan's electric light on a stage or in the frame of performance is a text with history, depth, content and meaning. Audience members are not looking at that single bulb, but every bulb they have ever seen, replaced in the dark while precariously balanced atop a step-ladder, stared at mesmerized like a moth while drunk, watched blow-up, switched off, switched on, replaced again, or imagined

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387 Goffman 139.
deliberately broken. McLuhan's bulb on stage is anything you can think of it being, because it is on stage and while it is so it has meaning within the theatrical frame.

Digital technology in the world, out in society, is digital technology. It is exciting, comes in sexy anodised aluminium packages and promises all the things you want it to be able to do. Digital technology is a gadget, a multi-media tool. Digital technology exists out in the frame of society, in the frame of techno-culture. In the frame of a performance, it is just theatre technology.

Digital culture is a culture of visibility, it is easy to see why something so ubiquitous and simple to use, whilst remaining magically complex can seem like it is "new". Erika Fischer-Lichte makes an interesting observation about new media and the theatricalization of society, the boundaries of culture and society are becoming blurred; things are swapping over because technology is allowing us to theatricalise what is "everyday" and not just our performances:

The simulacrum has become 'experience'. . . , and appearance in the media. . . turns out to be one in which reality - traditionally experienced and defined in opposition to appearance - has dissolved entirely. Thus the new media contribute considerably to the theatricalization of everyday life and only allow access to a staged/fabricated reality.\(^{388}\)

Digital technology and new media technologies,\(^{389}\) allow us to stage the urbanity of our lives, it allows us to heighten and publicize our lives in ways previously only familiar in a theatrical frame. In this respect Matthew Causey is correct because performance and technology in his examples from the oeuvre of the *Wooster Group* do reveal the digital culture. Digital has allowed a bleeding of society with theatre,
'performance has taken on the ontology of performance', unfortunately the technological ontology Causey talks of is one based in media theory, it is a social ontology not a theatrical one.

This is why theatre has seen a glut of domestic technologies flooding the stage in the last ten years, not because they are new technologies, but because they are qualitatively new or nouvelle: "new to you". Technology, culturally, has become much more embedded within our society, what for the Victorians represented industrial change and social prosperity, and for the futurists a mechanised utopia, represents for us contemporary communications practices: it is the everyday, the mundane, the usual. It is only right then that we should try to theatricalise them because that is one of the things theatre has always done: we theatricalise everyday life in order to produce theatre art. But to this end we must be careful to acknowledge technology in this relationship; are we making domestic technologies theatrical, without awarding them meaning by making them technē, or are we making them theatrical by making them the object of the theatre art? If we are doing the former, then the discussion is over; but if we are doing the latter, and in many cases we are, then we need to pay more attention to the texts that those technologies contribute to the text of the stage and the text of the performance.

This chapter has problematised the ouroboric hyper-tech model proposed in the previous chapter. Through that process attempts have been made to situate the arguments of the thesis alongside contemporary theories of mediality and intermediality. The thesis has tried to reposition theatre technology poiētically by

\[\text{\textsuperscript{390}}\text{Causey 29.}\]
\[\text{\textsuperscript{391}}\text{Birringer 106.}\]
shifting its basis from a position of craft to a position of art and it has argued that technology in the frame of theatre is to be analysed aesthetically as text rather than as a medium. By doing so we allow technology to have its own distinct nature and performance texture -- its own aesthetic quality, separable from other elements of performance and analysable in its own right.
CONCLUSION

Svoboda asked: what function does technology have in theatre, and how does it function in the dramatic work?\textsuperscript{392} This thesis has postulated that the function of technology in theatre can be both specific and psycho-plastic, and that in its function within a dramatic work, a performance or piece of theatre it functions in its own right as a text which can be "read" by an audience. Even though his thesis did not aim to answer that question directly, through its postulations and arguments and using the model it has established we are now in a better position to think about answering it. We are in a position where technology within a theatrical or performative frame has been argued to be separated from other aesthetic aspects of performance and theatre. It has tried to liberate theatre technology from being thought of as merely a theatre craft or as media -- full of message but void of content.

Exploring the context of the Corsican trap in the first chapter has outlined an idea which stands beyond history and moves towards describing an aesthetic theory of theatre technology. It was prudent at a certain point in the exploration of the glide trap to move away from what happened and ask how it happened. Firstly from an observational viewpoint – actually what was seen – and then in a more theoretical aspect – what was thought to be seen as well. To do the first part is to break down the effect by a simple analysis of the practicalities and functions of the physical object to find the function in the theatrical space; to do the second part one needs to take the role of the trap in the physical architectural space and examine how it affects the representational dramatic space in its function. With this aim, primarily three

\textsuperscript{392} Svoboda, The secret of Theatrical Space 17.
theoreticians from vastly different disciplines were used: Freud from early and popular psycho-analysis and his sole aesthetic study *The Uncanny*; Robert Weimann, a theatre and performance historian and theoretician with his theories of theatrical space and of the *locus* and *platea*; and Bachelard the philosopher with his work on *The Poetics of Space*.

It was important to introduce and establish the theory in the latter half of the chapter because the historical study had shown something that went beyond dry historical analysis and narrative writing: the trap was performative, people were watching the play because of the trap, this meant that it was more than just another aspect of stagecraft, but something that drew a crowd, there would have to be reasons for this that went beyond a quirk of marketing. In semiological terms, it had that "something else" that meant it was more than just trapped by its own "logical stability" as technology. So the meaning of the trap would have to be investigated and separated out from just being part of the literary drama it supported. It was something which could possibly be separate from *The Corsican Brothers* as a literary text and have more to do with the crisis of representation than the crisis in drama. Freud was used as a boundary or framework for the ensuing discussion: Freud's *Uncanny* provided the access of the literary representational argument to the stage representational argument with his assertion that stage ghosts were not uncanny because they were on stage; they remained ghastly but were not part of our home reality so could never be accepted as un-homely. The theoretical doorway was further pushed open by asserting with Weimann and Bachelard as support that because the ghost in *The Corsican Brothers* uses the trap it comes from a space beyond the stage and so potentially comes from a space that is our home space after all and is therefore uncanny.
With the effect examined and placed into an historical context, Weiman, Freud and Bachelard were used to explore the possible affects of the device within the dramatic work. With those established, the theis could then look at a historical rival to the effect in the form of the Pepper's ghost illusion. Using a similar method the illusion was examined through the earlier criticism of the glide trap, and found that although the effect was uncanny it was not theatrical. The Pepper's ghost illusion was unquestionably performative, but its staging impracticalities rendered it un-theatrical when compared with the Corsican trap which was both performative and theatrical. The divide put forward at the end of the investigation was a very modernist division of theatre technologies that are gratuitous and performative and stage technologies that are utilitarian and performative.

From this the study began constructing a model using the popular criticism of Lyn Gardner reinforced with the observations on technology that Christopher Baugh makes: that there are technologies that are a means to an end, and there are technologies which fulfil a particular function. The model that was derived from this was based on a continuum which had a perspectively relativist duality of specificity and psycho-plasticity. Specificity was used to describe technologies which fulfilled that particular function: the technologies designed to do something in particular. Conversely, psycho-plastic technologies were there to support the action of the stage, they were designed to help the art of the stage remain plastic in the imaginations of the audience. These two ends/sides of the continuum were being constantly moved around through processes termed re-invigoration and diversification. These processes would allow theatre technologies to flow into each other as interpolations, re-invigorating and diversifying across the technologies and through time. The model was termed a
"hyper-tech" and likened to George Landow's hyper-text, itself a version of Barthes' polyhedral lexia, a collection of short pieces and fragments of text which join up paratactically to make larger texts.

In investigating modern technologies, this hyper-tech model was problematised against the media theories of Marshal McLuhan, where "the medium is the message", and Jay David Bolter and Richard Grusin and their concept of remediation. In order to defend and interrogate the model of the hyper-tech, the concept of theatre technology as a medium had to be mooted and argued against. Using examples from Peggy Phelan, Phillip Auslander, Jonathan Crary, Amy Petersen Jensen, Susan Kozel and Mathew Causey, the position of theatre technology as medium and the Heideggerean ideas of technology, technē and alētheia were used to re-position the hyper-tech model in relation to modern theatre technologies.

Utilising the methodology from Chapter One, the context, history and performativity of the camera obscura and magic lantern was explored before mapping out their relevance to the modern live-feed using media technologies. The argument posed was that theatre technology was a textual thing because it is based within the theatrical frame and therefore had to signify something, it could not just be a medium and "be the message". Within the theatrical frame it had to be constructed and consumed simultaneously, like Barthes' "writerly text", the lexia. The processes of diversification and re-invigoration have relevance within the theatrical frame as processes affecting theatre technology as text.

These problematisations have led to a slight re-positioning and re-imagining over the course of the thesis, therefore a short rethinking of the hyper-tech as a visualised diagram different to the one presented in Chapter Two is in order. Firstly acknowledgement of the duality of the terms specific and psycho-plastic needs to be
made. These two terms as highlighted by the example of the Corsican trap's variant nomenclatures (covered in *Chapter One*) are much less oppositional as was previously convenient to maintain. Secondly, within the theatrical and performative frame, the interpolative processes of re-invigoration and diversification are much more binding, they form the "cycle" and they also form the connections to other technologies that make the model like Barthes' lexia. Lastly, the interconnectivity between the differing technologies must be at least alluded to; no single technology is a closed system within the theatrical and performative frame.

**The Interpolative Hyper-tech Model**

So now the hyper-tech model stands as such: an interpolative cycle of affect; simultaneously psycho-plastic and specific in potential, constantly shifting position due to temporal processes of diversification and re-invigoration. The hyper-tech is self consuming and perpetuating and can form the part of the hyper-tech of any other technology used within a performative or theatrical frame, and because the model is interpolative, it gains and loses the aesthetic qualities of the technologies it interpolates.\(^{393}\)

Even with the revision of this model afforded by the work of the previous chapters, it is still only a model, it cannot hope to encompass every possible link and eventuality that makes a technology.

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\(^{393}\) See figure 7 p183
Figure 7: The Interpolative Hyper-tech Model for Theatre Technology
To lay out in a web diagram format the technologies involved with the example of the live-feed system would be impossible, and even if it were successful, it would be extremely reductive, boiling down many complex technologies and interactions into a simplistic diagram. The hyper-tech model is to be used to "see" technology in theatre more clearly, to make the analyst question what is happening with the technologies on stage and to provide a frame work for further analysis which, although historically biased, necessitates the contextualising of each piece of technology identified in the hyper-tech web. It is the hope of this study, that the model produced and interrogated by this thesis will provide the groundwork for further academic study upon the creative and aesthetic components of the technical theatre but for now can we answer Svoboda's query? What function does technology have in theatre?

**Technology in a Theatrical Frame**

In Robert Lepage's *Elsinore* the public attention was drawn towards the failure of a technology dependent performance. The machinery of the stage broke down and Lepage's one-man-show was cancelled, but the machinery of that performance was at once psycho-plastic and specific: it enabled Lepage to manipulate the space of the stage dynamically and fluidly, utilising polyscenic practices and intermedial techniques. Technology was integral to the performance, and immediately upon its failure the name Shakespeare was evoked and his technology-free 'wooden "O"' offered as the superior alternative. But

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Shakespeare's theatre was not void of technology, it had access to the technology of the time and just because there is little direct evidence of Shakespeare using it does not necessarily mean that he did not at all. His English contemporaries Ben Jonson (1572-1637) and Inigo Jones (1573-1652) certainly did so for their masques. Collaborating for the first time on *The Masque of Blackness*, in 1605, Jonson and Jones used perspective scenery and *periactoi*.\(^{395}\) In Italy, Ignazio Danti (1537-1586) and Nicola Sabbatini (1574-1654) worked with many scenic devices some of which, such as the *periactoi* again, this time used by Danti or Sabbatini's cloud machine were mechanised elaborations of classical devices.\(^{396}\) Even so, the wooden "O" itself is a technological thing: an architectural construction. It is arguable that a theatre building is a psycho-plastic device, that Shakespeare's wooden "O" is a theatre technology.

In an everyday strip\(^{397}\) of life there are many social frames, according to Erika Fischer-Lichte one of those everyday frames is theatrical because 'the new media contribute considerably to the theatricalization of everyday life'.\(^{398}\) The modern theatre space is therefore a technologised one, because the fringes of the frame bleed across one another, but theatre space has always been inextricably technological and the technologisation of theatre is only evident now because the technologies have become more visible.

The theatrical space is bound up completely with technology, maybe not overtly as with the nineteenth century stage picture, or even with examples of Greek *deus ex machina* devices, but simply put, the theatre space is at its very inception a

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\(^{396}\) Mohler *The Development of Scenic Spectacle*, 27 October 2010.

\(^{397}\) Goffman 561

\(^{398}\) Fischer-Lichte 219.
technologically driven space. Even the empty bare spaces of the early Greek ritual spaces which are bound up with the ‘irresistible human impulse to demarcate certain spaces as sacred, separate from the profane spaces of the everyday’ use technologies to orientate and build and position themselves, according to the proximity of Dionysian temples, or ‘the sacredness of geometry’. Even rituals which incorporate elements of everyday life elevated to sacred status are rooted in the technological because humans are thinking, tool using, technological beings. If technology is a means to an end and a human activity then the demarcation of space via technological means makes all theatrical space technological even if technologies are not used within that space. Theatrical space as space within a theatrical frame, even if it physically forms part of that framing, is theatre technology.

**Technologised Space**

Theatrical and performative spaces have their places in the specific/psycho-plastic model too. In fact, through theatrical space, the duality of the core of the model can perhaps be better explained. The two terms specific and psycho-plastic were shown as perspectively relativist in *Chapter Two* in the example of the multiplicity of potential uses that the Corsican trap had gathered over time, but this same phenomenon can be more clearly explicated with the use of theatrical space as an example.

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399 Wiles 27.
400 Wiles 29.
401 Wiles 31.
402 Heidegger 4.
Found space, would seem to be a dismissal of "traditional" and technologised
theatre. Found spaces 'contest the idea that theatre is a closed aesthetic
category' and instead open up any non-conformist, abandoned or seemingly un-
suitable space to the theatrical frame, evoking the history of the building as symbolic
to the liberation of the space by theatre. Ironically, it is often the case that these
spaces are only "found" from the outside inwards, their core spaces maintaining the
'black box aesthetic' while their exteriors are renovated and look like the buildings
they once were. The search for a found space is often a search for a theatrically
neutral space, a search that is exemplified by the career of Peter Brook. David
Wiles outlines the search for an 'empty space' with specific reference to Brook. The
chronology he draws is very interesting from a specific/psycho-plastic
viewpoint. Brook was a proponent of theatrical reform in the 1970s searching for a
space which 'escaped definitions', and remained free of ideologies which would
contaminate the performances, but also one that would move away from the neutral
psycho-plastic spaces of the 1960s, 'where the principles of infinite adaptability and
the multiplicity of individual points of view' were becoming so prevalent in the
black box theatre spaces of the Western theatre. When Brook found the Bouffes du
Nord, an abandoned and crumbling Victorian theatre in Paris, he wanted to 'keep the
theatre exactly as it was, not to erase a single trace of the hundred years of life that

\[\text{Wiles 262.}\]
\[\text{Wiles 262.}\]
\[\text{Brook is the most well known proponent of this theatre theory having coined the phrase "empty space" for theatrical use, but he is not the only one to have searched out spaces to work with similar philosophies: Alexander Tiarov found the building in which to base his "Chamber Theatre" in much the same manner and for the same reasons as Brook found his "Bouffes Du Nord."}\]
\[\text{Wiles 262–266.}\]
\[\text{Wiles 262.}\]
\[\text{Wiles 262.}\]
had passed through it\textsuperscript{409} despite the fact that it was falling down whenever the audience applauded. In his subsequent renovation, Brook, cleared away the seats, stripped back the stage area and the proscenium arch, he took out 'the overt theatrical references'\textsuperscript{410} and replaced them with other historical ones: the democratic circular bench seating of Greece, the interiority and intimacy of restoration theatre and the apparent similarity of shape with the newly rediscovered Elizabethan Rose Theatre.\textsuperscript{411}

Brook's rejection of the psycho-plastic black-box type of theatre for his found Bouffes Du Nord theatre space is a complicated one in terms of my model. On the one hand, it is a move towards the specific, re-invigorating aspects of Greek auditoria and the \textit{platea} of the Restoration and Elizabethan theatres, wresting it from the proscenium arch of the old Victorian building. Brook re-invigorates those architectural technologies, but at the same time, the space itself diversifies, it is not specifically Greek or Elizabethan or Victorian in its essence – it is all of them. In the search for a found space, free from old ideologies, Brook made a space which evokes many old ideologies, re-invigorated and diversified. Found space, in this example is specific through its psycho-plasticity, the audience of the space imposing the intimacy, democracy and theatricality of the space onto the action that is presented to them.

\textsuperscript{409} Peter Brook, \textit{The Shifting Point; 40 Years of Theatrical Exploration 1946-1987}, (London: Methuen 1987) 151.
\textsuperscript{410} Wiles 263.
\textsuperscript{411} Wiles 263.
Technology Rejected

It is because theatrical space is technological that this evaluation can occur even if the technological is deliberately rejected from the theatre's ideology\textsuperscript{412} even in the case of Jerzy Grotowski's Poor Theatre, where the specific material construction\textsuperscript{413} of the set of \textit{The Constant Prince} is reminiscent of the geometrical precision of the positioning of Greek performance space described by David Wiles:\textsuperscript{414}

The bareness and "poverty" of both architectural and scenic resource seemed . . . to be self evident. Yet equally self-evident from the relationship between Grotowski, his actors, and us his scenic technicians, was the care and deep aesthetic attention that was paid to ensuring his "empty stage" acquired the powerful eloquence that it had in performance.\textsuperscript{415}

The aesthetic attention described above by Baugh also chimes with my own experience working with Peter Brook’s tour of \textit{La Tragedie d'Hamlet} to Warwick Arts Centre in 2003. The main theatre of Warwick arts is hexagonal in shape and seats roughly five hundred people in a fanned arena configuration. Over three days the space was changed from the original 1974 design into something that was not a simple transfer of the Bouffes Du Nord, nor a normal configuration of Warwick Arts Centre main theatre.

Brook's stage design consisted of a single red square, with cushions laid squarely in the centre of the space. This was the performance area, in the Bouffes Du Nord it had been placed upon the stage with the crumbling walls of the old theatre space exposed and laid bare. It was simple, found and rough. On tour to Warwick it

\textsuperscript{412} Baugh 180 – 202.
\textsuperscript{413} Baugh 192.
\textsuperscript{414} Wiles 29.
\textsuperscript{415} Baugh 193.
was a different matter. The stage was extended approximately six metres into the auditorium, so that rather than have the front six rows of seats meeting a stage floor one metre twenty above the auditorium floor, the stage met the auditorium floor at the foot of the seats. The proscenium towers, designed to push to the sides were withdrawn to their fullest and the whole depth of the stage carpeted in black with the pile knap brushed towards the auditorium, so that the shade would appear particularly deep. The fly bars had to be specially adapted to make sure that the black serge masking surrounded the width and depth of the stage without leaving any corners. The black box we built did not just look black, it had been constructed in a way that would absorb shadows and extra light; the space looked infinite because there were no corners to enable the eye to perceive depth, like a photographer's infinity curve. The lighting rig consisted of fifty wash lamps, twenty five in a range of colour temperature blue gels and the remaining twenty five in colour temperature orange; the show had over fifty lighting cues for a two colour wash -- a level of nuance unusual in such a simple design. Finally the simple carpet at the centre of the stage was a twenty by twenty foot square, quilted rug of red Indian silk spread carefully over a thick woollen under-carpet which in turn sat upon a portable, wooden, ballroom dance floor. The space was kept impeccably clean: the carpet around the red square was cleaned after every performance by the in house crew and the red square by the company manager.

Brook's empty space takes a lot of maintenance and a lot of time and technology to look sufficiently "empty" and as Baugh said about working on Grotowski's *The Constant Prince*: 'If the careful construction of such an "empty space" of performance can generate significance and "speak" to its audience, then
what does it say?" I think that the answer to this lies not in a "poor scenography" which rejects the technological but in a technologically psycho-plastic aesthetic, where the technological is invisible as a human activity and not a visible means to an ends. It is this answer that is key to understanding another question, the question we started with: what function does technology have in theatre? The answer is quite Heideggerean: technology is a human activity of theatre. It is the technē of theatre, but as was pointed out in Chapter Three, theatre technology can be more than just technē, and this is where the second part of that question needs addressing: what function does technology perform not only in the dramatic, but in the performative and theatrical work?

The Affect of Effect

In the case of Lepage's Elsinore the motorised stage-set is at once specific and psycho-plastic, or rather it is a specific technological effect with a significantly psycho-plastic affect. The difference between effect and affect is a complex one that extends beyond the simple semantic definitions of noun and verb and as James Thompson points out, in his exploration of the Brechtian relationships between fun and edification and theatre for entertainment and theatre for instruction, affect 'should not be the mere adjectival flourish to the dominant noun of effect.' Effect as a noun refers to something produced by a cause, or something used to produce results. Affect as a noun refers to a psychological condition, emotion or feeling and

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416 Baugh 195.
as a verb is the action that produces that emotion. What is important is the noun in an adjectival mode -- affective -- means that something is emotionally or psychologically resonant. Thompson specifically argues that 'the notion of affect [as a noun] is designed to disturb the opposition' of Richard Schechner's entertainment/efficacy braid, a model of performance theory developed in the 1970s and one of the precursory readings for my research into developing a model for theatre technology. Schechner's braid explores the shifting relationship in performance between its trends for entertaining and its trends for informing exploring the aesthetics pertaining to efficacy and entertainment. For Thompson, however, the affect of a piece of theatre has greater "felt" significance than its aesthetic position within Schechner's braid, the experiential "felt" significance which Thompson says Bertolt Brecht was alluding to when he says 'what is "natural" must have the force of what is startling'. Thompson's argument is an appeal for a phenomenological study of theatre where affect is 'no longer the adjunct, the expendable adjective, but the dynamic texture of the work through which it finds its force.' The development of the specific/psycho-plastic model to become an interpolative model within a theatrical frame chimes well with this view, allowing theatre technology to be affective within the dramatic work as *alētheia* as well as effective within the theatre space as *technē*.

A second observation about affect and its relevance to my argument can be drawn directly from Brecht's writings on Verfremdungseffekt, specifically from the essay 'Alienation effects in Chinese acting' (1949). In describing how his new term Verfremdungseffekt (translated as A-effect by Willet and used as such from here on

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418 Cited in Thompson 129.
419 Thompson 131-140.
out) works, Brecht describes the work of a Chinese performer and the A-effect it produces:

He makes his own mystery from the mysteries of nature ([...]): he allows nobody to examine how he produces the natural phenomenon, nor does nature allow him to understand as he produces it. We have here the artistic counterpart of a primitive technology, a rudimentary science. The Chinese performer gets his A-effect by association with magic. 'How it's done' remains hidden; knowledge is a matter of knowing the tricks and is in the hands of a few who guard it jealously and profit from their secrets.\textsuperscript{421}

Of particular interest in this passage are the secretive nature of the A-effect produced and, of course, the magic involved. Throughout this thesis there has been a thematic recurrence in the affects extracted from the technologies examined, one of strangeness and otherness: the uncanniness of the Corsican trap and Pepper's ghost, the inversion of image in the \textit{camera obscura}, the eeriness of the phantasmagoria and the doubling of the "live" objects through a camera and projector. The effect of technology within the dramatic work often seems to be an alien one. It would seem that technologies are not quite part of the world of the theatre. It could alternatively be argued that the affect felt when regarding technology is that we are somehow distanced from the technology because we are made to acknowledge it by the frame of the stage. Technology is uncanny when framed theatrically because it distances us from the technology and makes us look at it; the technology we see has an A-effect upon us as spectators: "how it's done" remains hidden and consequently the technology seems magical again as discussed in \textit{Chapter One}. Perhaps we can produce a corollary to Arthur C Clarke's Law: any sufficiently nouvelle technology presented theatrically is indistinguishable from magic.

Towards an Aesthetic Future (a Personal Reflection)

This thesis has produced an interpolative hyper-tech model for theatre technology and expounded the critical awareness that theatre technology can be both effective and affective. It functions in this manner in the theatre and in the dramatic form. It is this model which forms the foundation of critical language that will enable us to move towards discussing the aesthetics of theatre technology. Hans-Thies Lehmann writes 'all aesthetic investigation is blind if it does not recognise the reflection of social norms of perception and behaviour in the artistic presence of theatre.'

Within this study I have attempted to establish a reflective mode of perception that can relate to technology; with society's increasing awareness of technology it is difficult not to think, as William J. Mitchell did back in 1996, that 'we are all cyborgs now. Architects and urban designers of the digital era must begin by retheorizing the body in space'. The word "future-shock" has left our vocabulary; as a technologist it is hard not to be flippant about the swiftness of technological change: In 1996 I had a Super Nintendo with 16-bit graphics and my own 12-inch VHS/TV-combination. My dad made spreadsheets on his 486 DX4, a computer five hundred times more powerful than the one that sent humans to the moon. The Mars Pathfinder mission landed in December that year and was sending back amazing black and white pictures; 2.3 billion bits' worth. That's 28.75 GB worth of images. If we were all cyborgs in 1996 what are we now? I can download those images to a

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422 Lehmann, Postdramatic Theatre, 19.
423 William J. Mitchell, City of Bits; Space, Place and the Infobahn (Cambridge, Mass.: MIT Press 1996) 28
160 GB iPod and still have room for every *Star Trek* movie. We have become, as Matthew Causey is wont to think, a techno-cultural society; it is fitting then that this hyper-tech model is a techno-cultural one, to reflect our emerging social perceptions of theatre and performance. Causey also observes something interesting happening within this new techno-cultural phenomenon:

> The technological signifier does not necessarily signify differently from the human signifier, but it does displace the social configuration both of the performance and of the subject and their respective texts. This process of fragmentation cannot take place in the traditional spatial/temporal model of the theatre that privileges the human signifier as the present, charismatic other.  

Although I do not fully agree with his conclusions, Causey is right to think that modern technology has changed culture irreversibly and consequently to think that technology has altered theatre in the same manner and it would be absurdly reductive of me to dismiss this concept outright. I do think, however, that it is important now with the acknowledgement that technology is influencing and has influenced culture and theatre so much, that we also acknowledge that it has its own aesthetic. Where the crisis in drama has led, the crisis in representation has been in accompaniment, and as the dramatic strives to reflect what is happening culturally in literary forms, technology has strived to find new ways of representing and presenting.

> It is my fear that this thesis and the model and arguments contained within, will be used in a reductive manner to explain away technologies lightly or to embed them within logically stable fields or set them as modes of effective theatre application. It could also be used as method of championing technology above the performative or theatrical act, as a supporting argument for the negation of the

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424 Causey 38.
"live" and ascendancy of the new media. It is not meant to be any of these things. The purpose of this thesis was to provide a critical language that would form the basis of further aesthetic study in the field of theatre technology, doing so has shown that things other than the human as performer can be the privileged signifier in performance. When Josef Svoboda asked that fundamental question he said that he could not be answered with a formula. He was right that a formula cannot answer them, but maybe my model can form a basis to produce creative answers to his questions.
Bibliography


Fischer-Lichte, Erika. 'From Theatre to Theatricality – How to Construct Reality.'


Gaskell, Ronald. Drama and Reality: the European Theatre Since Ibsen. London:


Leeper, Janet. Edward Gordon Craig: Designs for the Theatre. Harmondsworth:


Listengarten, Julia. 'Kandinsky’s Stage Composition as a Total Work of Art' Scenography International issue 5 – Paint, light and meaning (nd)


Merleau-Ponty, Maurice. The Visible and the Invisible(1964). Trans Alphonso


Rose, A. Stage Effects, How to Make them and How to Work them. London: George Routledge and Sons Ltd., 1928.


Speaight, George. 'Professor Pepper's Ghost' Theatre Notebook 43.1 (1989): 16-24


**Newspapers:**


*Caledonian Mercury*. [Edinburgh]. 12 April 1852.


*Era*. [London]. 29 February 1852, 21 March 1852, 4 April 1852, 28 December 1862, 3 December 1854, 23 February 1862, 4 January 1863, 9 April 1873.

*Graphic*. [London]. 7 April 1900.


